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Guide to Marine Transportation Information Sources in Canada

second edition

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The purpose of this document is to provide an up-to-date reference source on marine transportation information and expertise in Canada. A short bibliography is followed by a directory of organizations divided into five sections : government, professional associations, academic/research establishments, commercial enterprises and a selective list of international organizations. An alphabetical index of organizations listed and a subject/expertise index are also provided.

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Judith Nogrady

17. Résumé

Ce document constitue une source d'information actuellement sur les entreprises et organismes oeuvrant dans le domaine du transport maritime au Canada et sur les spécialisations dans ce secteur d'activités. Il renferme une courte bibliographie suivie d'un répertoire des organisations rassemblées en cinq grandes catégories : organismes publics, associations professionnelles, établissements de recherche privés et universitaires, entreprises commerciales, et d'une liste sélective d'associations internationales. Enfin, on y trouve un index alphabétique des noms cités et un index par sujet ou domaine de spécialisation.

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Introduction

This is the revised and expanded second edition of the "Guide to Marine Transportation Information Sources in Canada". The first edition, now out of print, was published five years ago and has since become outdated. Because it turned out to be a very popular publication, and TDC is still receiving numerous requests for it, it was decided to publish a second edition.

The Marine Transportation R&D Advisory Board was approached for financial assistance, and they generously offered to sponsor the project.

The purpose of this publication is to provide an up-to-date reference document on marine transportation information sources in Canada for the benefit of Transport Canada, the Marine Transportation R&D Advisory Board, the marine industry and the general public with an interest in the maritime field. Listing ongoing projects and activities, it is a source of "expertise" relevant to marine transportation.

Like the first edition, the current guide is divided into three parts: bibliographic sources, a directory of organizations and institutions and an index.

The bibliography was enlarged in order to provide a reference tool for researchers, and also to help collection development in small marine libraries. The number of entries increased from 75 to 190. Abstracting and indexing services, databases, bibliographies, periodicals, conference proceedings, directories, dictionaries, economic, legal and statistical sources, handbooks and manuals are included. There is an emphasis on Canadian sources, but international publications containing information relevant to Canadian marine transportation needs are included. Most of the bibliographic entries are annotated.

The directory of marine organizations and institutions includes 212 entries. It is divided into 5 sections: Government Bodies, Associations, Educational/Research Organizations, Commercial Enterprises and International Organizations. The small and very selective international section has been added to this edition.

Information was provided by the organizations themselves, except for some of the international entries, which were based on various published sources. The survey questionnaires were designed by Ann Poole and Margaret McKay, the editors of the 1st edition.

Some of the listed organizations have no formal information services, or do not provide free access to their files. In these cases, the "contact person" could be approached for further information.

Access to information contained in the guide is provided by two indices, an alphabetical index of the organization listed, and a subject/expertise index to the bibliography and the directory.

Acknowledgements

The assistance, cooperation and patience of all contributors. The author extends her heartfelt thanks to Ginette Montbriand, Barbara Craig and Judith Nogrady, the project officer, for their help.

Bibliographic Sources

BIBLIOGRAPHIC SOURCES

Abstracting and Indexing Services and Databases

B 001
ASTIS - Arctic Science and Technology Information System. Calgary: Arctic Institute of North America. University of Calgary, 1978 - .

The purpose of the Arctic Science and Technology Information System (ASTIS) is to improve the accessibility of existing information about arctic regions. ASTIS operates an automated bibliographic database which provides printed and online information retrieval services.

Available online through the QL system. Printed publications include the bimonthly *ASTIS Current Awareness Bulletin,* and the annual cumulative *ASTIS Bibliography* on microfiche and *ASTIS Occasional Publications,* a series which includes special bibliographies and other reference tools for ASTIS users.

B 002
Boreal Library Catalogue. Edmonton, Alberta: Boreal Institute of Northern Studies. 1977-. Monthly.

Covers all subjects pertaining to polar and cold regions of the world, particularly western Canadian Arctic. Includes all items catalogued by the library. Accessible for the public through University of Alberta computing service.

B 003
Boreal Northern Titles. Edmonton, Alberta: Boreal Institute of Northern Studies. 1972 - .

Covers periodical literature and government documents received by the library. Foreign publications included if they have an English summary or abstract. Available in print: *KWIC index: Northern Titles.* Monthly. With annual accumulation. Online through QL Systems Ltd. (Quarterly updates).

B 004
British Ship Research Association. *Journal of Abstracts of the British Ship Research Association.* London, England: BSRA. 1946 - . Monthly.

In addition to government reports, books and reference sources, articles from over 300 serials from various countries and subject fields are selectively reviewed and abstracted, including non-English language material. BSRA publications, reports, translations and bibliographies are also included. Abstracts are arranged by broad subject categories in main sections: ship design, ship construction, ship machinery and systems, ship operation, and ocean engineering. An annual index allows access by keyword and author.

From 1985 it incorporates *Ship Abstracts.*

Available online in England, and it will be available in 1985 worldwide.

B 005
Canada Institute for Scientific and Technical Information (CISTI). *Library Holdings.* Ottawa: National Research Council of Canada.

CISTI's library holdings are accessible online since 1978 through CAN/OLE (OON) and through the DOBIS network.

See also: 1-033-G.

B 006
Canadian Transportation Documentation System (OOT). Produced by Transport Canada Library. Available on CISTI's CAN/OLE system. 1965 -. Updated monthly.

Covers Transport Canada documents as well as other commercial, government, university and association publications concerning transportation or transportation-related subjects, held at Transport Canada libraries network.

BIBLIOGRAPHIC SOURCES

B 007
Ei. Engineering Meetings. New York, N.Y.: Engineering Information Inc. 1982 - .

Indexes 2000 technological conference papers. No printed equivalent.

Available: DIALOG, CAN/OLE, SDC-ORBIT.

B 008
Engineering Index. New York: Engineering Informations Inc. 1962 - . Monthly. Available online 1970- . on DIALOG, SDC -ORBIT, CAN/OLE, BRS, ESA. Database name: COMPENDEX.

Covers world's significant engineering literature from serials and monographic publications (including books and conference proceedings). Fields of engineering and related subject areas include: civil engineering; construction material; materials' properties and testing; transportation; water and waterworks engineering; pollution, sanitary engineering and waste; bioengineering; ocean and underwater technology; engineering geology; metallurgical engineering; mechanical engineering; nuclear technology; fluid flow; heat and thermodynamics; marine engineering; electrical engineering; electronics and communication engineering; computers and data processing; control engineering; light and optical technology; sound and acoustical technology; engineering physics; instruments and measurement, etc.

B 009
Environment Libraries Automated System (ELIAS) developed by the Departmental Library, Environment Canada. Available online as part of CISTI's CAN/OLE system and through the DOBIS network. 1976 - .

Represents holdings of all libraries participating in the network including a collection from Fisheries and Oceans and one private corporation. The file also provides access to the complete listing of Environment Canada publications received since 1976. Subjects covered include environmental impact analysis, meteorology and climatology, pollution and water resources.

B 010
MARNA - News. A Maritime Title Review. Rotterdam: Maritime Information Centre (MIC), 1974 - . Monthly.

Covers scientific and technical literature related to ships, shipbuilding, shipping, ports and waterways, offshore engineering, icebreaking, marine pollution, laws and regulations, etc. It is international in its coverage. Abstracts are arranged inbroad subject categories, contains keyword and author indices.

Available online: Norsk senter for informatik Oslo, Samson Data Systemen.

Database name: MARNA.

B 011
National Technical Information Service (NTIS) U.S. Department of Commerce. Springfield, Virginia. 1964 - . *Government Reports Announcements*. Index (GRA & I), biweekly; *Abstract Newsletters*, weekly.

Covers U.S. Government-sponsored research and development technical reports from over 200 Federal agencies and some reprints, federally-sponsored translations, and foreign-language reports in areas of major interest. Multi-disciplinary scope includes aeronautics; agriculture; astronomy and astrophysics; atmospheric sciences; behavioral and social sciences; biological and medical sciences; chemistry; earth sciences and oceanography; electronics and electrical engineering; energy conversion (non-propulsive); materials; mathematical sciences; mechanical; industrial; civil, and marine engineering methods and equipment; military sciences; detection, and counter-measures; nuclear science and technology; ordnance; physics; propulsion and fuels; space technology.

Database available online: CAN/OLE, DIALOG, BSR and SDC-Orbit. Database name: **NTIS**.

B 012
Naval Abstracts. Alexandria, VA: Center for Naval Analyses. 1978 - quarterly.

Affiliated with University of Rochester. Mostly millitary in scope.

B 013
Ocean Engineering Information Centre (OEIC). *KWOC Index*. St. John's, Newfoundland: Ocean Engineering Information Centre, 1976-.

A master index and one supplement produced yearly on microfiche. Subject coverage: cold ocean engineering.

A limited number of annual subscriptions are available $140.00.

B 014

Oceanic Abstracts. Bethesda, MD.: Cambridge Scientific Abstracts, 1964 -. Bimonthly, annual cum. index.

Available online through DIALOG, 1964 - updated: bimonthly.

Oceanic Abstracts organizes and indexes technical literature published worldwide on marine-related subjects. Over 9,000 citations from approximately 2,000 worldwide sources are added to the database each year. Records cite journals, books, technical reports, conference proceedings, and government and trade publications. Major subject areas covered by Oceanic Abstracts are oceanography, marine biology, marine pollution, ships and shipping, geology and geophysics, meteorology, and governmental and legal aspects of marine resources.

B 015

Ship Abstracts. *See*: Ceased Services, p. 27.

B 016

U.S. Department of the Army, Cold Regions Research and Engineering Laboratory. Hanover, N.H. *Antarctic Bibliography*. 1962 -. *Bibliography on Cold Regions Science and Technology* (CRREL report no. 12) 1969 -. Annual.

Available online through SDC ORBIT. Database name: COLD. 1962 -. Updated quarterly.

All disciplines dealing with Antarctica, the Antarctic Ocean and subantarctic islands; snow, ice, and frozen ground; navigation in ice; civil engineering in cold regions; behavior and operation of materials and equipment in cold temperatures. Source materials include monographs, technical reports, journal articles, conference papers, patents and maps produced world-wide.

B 017

World Ports and Harbours Abstracts. Cranfield, Bedford, England: BHRA Fluid Engineering. 1976-. Bimonthly.

Incorporates (1982) *International Dredging Abstracts*.

World Ports and Harbours Abstracts covers construction, development and maintenance works associated with ports and coastal waters. Port management, ship and cargo handling, design and construction of dredgers and work boats, dredging and mining operations and their environmental impacts are also covered, as the subject area of fundamental hydraulics. It contains some 1200 abstracts per year in six issues.

Available online since 1983 as a subfile of BHRA Fluid Engineering Abstract (Fluidex) on DIALOG. (File no. 96, SF = PH).

Bibliographies

B 018

Acres Consulting Services Limited. *Bibliography of Oceanographic Atlases Covering Canadian Ocean Waters*. Ottawa: Department of Fisheries and Oceans 1981. Marine Environmental Data Service. (Report no. 6).

This report is a bibliography of atlases primarily containing physical oceanographic material from Canadian waters. Entries are organized alphabetically by author, and contents are summarized in a parameter code. Where it is possible, a full bibliographic reference and abstract are provided with each entry. Geographic maps of Canada for each parameter, which are annotated by reference number, are also presented. These allow quick reference to material by geographic area and parameter. Finally, a list is provided of the information sources consulted in the compilation of this report.

B 019

Cunningham, Peter. *Canada's Changing Ports Scene: An Annotated Classified Bibliography*.

Toronto: University of Toronto/York University Joint Program in Transportation, 1978. (Research report no. 54).

This research report is a classified and annotated bibliography, comprising approximately 370 items. Its purpose is to provide a tool for research. Subjects covered include ports in general, housing, industry, jurisdictional issues and public policy, ports and shipping design and technology, recreation and access, trade and economics, and waterfront redevelopment. Some material on ports in countries other than Canada is included in the bibliography, particularly literature that deals with port redevelopment, and with ports in the United States. Most of the entries are annotated.

B 020
Davis, Bob J., ed. *Information Sources in Transportation, Material Management and Physical Distribution: An Annotated Bibliography and Guide*. Westport, Conn.: Greenwood Press, 1976.

Some Canadian materials and organizations are covered in this detailed guide to books, government publications, statistical publications, atlases, maps and institutions relating to all aspects and modes of transportation.

B 021
Defense Documentation Center. *Cargo Ships: A DDC Bibliography, 1960 - 1969*. Alexandria, Virginia, 1970. 2 vols.

A computer-generated index covering economic and technical aspects of the subject, especially naval architecture, marine engineering and operations. Has subject and corporate author indexes.

B 022
Duensing, Edward. *Ferry Transport: Services and Facilities*. Monticello, Ill.: Vance Bibliographies, 1980. (Public Administration Series: bibliography P-441).

B 023
Dunbar, M.J. *Marine Transportation and High Arctic Development: A Bibliography of Scientific and Technical Research Relevant to the Development of Marine Transportation in the Canadian Arctic*. Ottawa: Canadian Arctic Resources Committee, 1980.

Only part of this bibliography deals with arctic marine transportation. References date as far back as the 1950's.

B 024
Forgie, I.G. *Statistical Information on Transportation Available from Federal and Provincial Governments 1984*. Ottawa: Statistics Canada, 1984.

This publication is a partial catalogue of transportation information held by federal and provincial government departments and agencies. The present publication is a revised and enlarged version of the 1980 edition. Statistical and other data sources concerning all modes of transport are grouped under four broad headings: market, traffic, infrastructure and vehicle.

B 025
Gill, R.G. and Cammaert, A.B. *Ice Control for Arctic Ports and Harbours, Volume 2, Bibliography*. Montreal: Transportation Development Centre, 1983. (TP 3967).

This bibliography supports a report (v.1) that examines the types of ice problems that may occur in harbours that are operated in ice conditions and presents a description of a range of ice control techniques that could be used in conjunction with certain design approaches to mitigate these problems. Criteria for harbour design are addressed and a number of Arctic and non-Arctic locations are briefly described in order to illustrate the ice problems that are, or may be, experienced.

B 026
Goodwin, C. Ross et al. *Cold Ocean Engineering Bibliography*. Calgary: Arctic Science and Technology Information System, 1984. (Astis Occasional Publication no 12, C-CORE Publication no. 84-12).

The bibliography provides an overview of recent developments in cold ocean engineering. It is neither selective nor comprehensive, but consists of the recent acquisitions (1981-1984 for OEIC, 1978-1984 for ASTIS) of the two information centers.

The information is also available for online searching as part of the ASTIS database.

B 027
Goodwin, C. Ross; Howard, M. Lynda. *The Beaufort Sea, Mackenzie Delta, Mackenzie Valley, and Northern Yukon: a Bibliographical Review*.

Ottawa: Office of the Northern Research and Science Advisor. Indian and Northern Affairs Canada, 1984.

This bibliography contains 1547 citations, with abstracts, concerning the Canadian Beaufort Sea region and the Mackenzie Valley.

The bibliography is completely multi-disciplinary, and includes the entire range of subjects contained in the ASTIS database.

BIBLIOGRAPHIC SOURCES

B 028
Greisman, Paul. *Bibliography of Ice Properties and Forecasting Related to Transportation in Ice Covered Waters.* Groton, C.T.: U.S. Coast Guard Research and Development Center, 1980. (NTIS no.: AD-A09725/4).

This bibliography is intended as a tool for those performing research in ice properties related to ships; particularly icebreaker operations. The areas covered are the properties of lake, sea and river ice as they relate to mechanical behavior, remote sensing, and ice motions. Other topics included are: ice climatology, pressure ridges, shipping routes, vehicles and vessels, scientific studies by the Arctic Ice Dynamics Joint Experiment (AIDJEX) and other bibliographies.

B 029
Icebreakers and Icebreaking. 1970-1984 (Citations from the NTIS DataBase). Springfield, UA.. National Technical Information Service, 1984. (NTIS no.: PB85-851483).

This bibliography contains citations concerning various aspects of icebreaker vessels and icebreaking on navigable waterways and ocean bodies. Topics include design aspects and performance evaluations of specific vessels and vessel types, ice navigation and forecasting, and effects on shipping activity in various waterways. Design aspects of shipboard machinery and systems are discussed. (This updated bibliography contains 209 citations, 24 of which are new entries to the previous edition.) Updated irregularly.

B 030
Landry, L. *Inventory of Marine Information Sources.* Ottawa, Transport Canada, 1980.

This report identifies the main sources of statistics in the field of marine transportation. It includes sources whether they originate in agencies or departments of the federal government, provincial governments, foreign governments or the private sector. It is intended as a guide to sources of information for those who require statistics on marine transportation.

Certain private data sources are also listed. The list of sources is not exhaustive, but contains the best known and most used statistical sources in the field of marine transportation. It also gives in detail all the types of information which can be found in each of the sources, either using a computer or by manual access. Seven groups of data are identified, general information, ship registry, information on tariffs, operation of vessels, movement and commodities, port activity, financial information.

B 031
Sater, John E. *Ice Pressures Ridges: a Bibliography.* Arlington, VA.: Arctic Institute of North America, 1981.

The purpose of this study has been to compile a bibliography of studies concerning ice pressure ridges, as they concern arctic marine transportation; assess the gaps in knowledge concerning them, from the data available; and, recommend a course of action to fill the gaps.

B 032
Mackenzie, Charles H.C.; Power, Michael E.; McDorman, Ted. *Liner Shipping Conferences: An Annotated Bibliography.* Boston: Lexington Press, 1985.

A selected annotated bibliography of significant economic, commercial and other materials concerning the nature and operation of liner shipping conferences. The majority of references are British and American with a large number of UNCTAD documents related to the "code" also included.

B 033
Manalytics, Inc. *Port Planning and Development: A Bibliography.* 2nd ed. San Francisco: Manalytics, Inc., 1976.

"The bibliography is a selected listing of journal articles, professional papers, technical reports, books, and research in progress covering port organization, administration and operation, economic impact, port access, intermodal interchange and deepwater port planning.

The scope of the bibliography is worldwide, with emphasis on the literature published in the English language during the past ten years. The bibliography is arranged by broad subject category. Subject and author indexes are included".

B 034
Marine Systems in Frigid Environments: Special Bibliography. Washington, D.C.: National Academy of Sciences, 1978.

BIBLIOGRAPHIC SOURCES

This special bibliography contains abstracts of selected reports and journal articles that cover the range of problems associated with marine systems that operate in ice-covered waters. The major emphasis of this material is on marine transportation rather than marine structures.

The abstracts were selected from those that are contained in the computer tape records of the Maritime Research Information Service under subject area 01, Arctic and Cold Weather Operations.

B 035

Maritime Information Sources: a Guide to Current Data. Special Bibliography. 2nd ed. Washington, D.C.: National Academy of Sciences, 1979.

This guide includes abstracts of government and privately maintained data bases and publications containing data related to maritime transportation. With a few exceptions, the publications abstracted are periodically reissued or updated. Some organizations that collect data but issue no publications may make them available upon request. A listing of some of these organizations has also been provided.

The emphasis of this publication is on U.S. material but includes Canadian and International sources too. The appendices list Maritime Labor Unions, Trade associations, Industry related organizations, freight conferences, special libraries and abstracting or information services.

B 036

Patterson, Susan. *Canadian Great Lakes Shipping: An Annotated Bibliography.* Toronto: University of Toronto/York University Joint Program in Transportation, 1976. (Research report no. 37).

This bibliography is a product of the National Transportation Policy Project Group on Canadian Marine Transportation. It covers books, articles, theses, directories, annual reports and technical reports on economic, political and social aspects of Great Lakes shipping history and development covering the period between 1950-1976.

B 037

Sanderson, Daphne. *Ship Navigating in Ice: A Selected Bibliography.* Montreal: Transportation Development Centre, 1982. (TP 3855).

Contains research reports, papers, articles in technical journals and unpublished material from 1970 through 1980. Covers ice accretion, control, ice breaking, model testing, ship trials, propulsion systems and technology, etc. A second edition covering 1981-84 is published.

B 038

SansCartier, L. and Keeley, J.R. *Oceanographic Atlases of Canadian Waters: A Bibliography.* Ottawa: Department of Fisheries and Oceans, 1981. (Canada. Marine Environmental Data Service. Technical report series: 10.).

This report extends the work carried out by Acres Consulting Co. to compile a bibliography of atlases containing information about the waters around Canada. The goal is to identify, as completely as possible, all material relating to physical oceanography only. Other material, relating to biology, has also been included but the coverage of this is not complete. The information is arranged in alphabetical order by author. A geographical breakdown of the contents of the atlases is given in a series of maps. Where possible, an abstract has been included to describe the contents of each atlas listed.

B 039

Ship Structure Committee Publications: A Special Bibliography: Washington, D.C.: Maritime Research Information System, 1983. (NTIS no.: AD-A140 339).

A review of the Ship Structure Committee's reports through 1981 with an abstract of each is presented. It contains four distinct sections. The first has report abstracts in numerical order according to the MRIS number. The second section is an alphabetical listing of authors showing their MRIS report numbers. The third section is a subject term index with key words listed alphabetically showing the MRIS report numbers which using the keyword shown. The final section lists the Ship Structure Committee reports in numerical order and shows the corresponding MRIS and NTIS numbers.

B 040

Sources of Information in Transportation. (3rd edition) Monticello, Ill. : Vance Bibliographies, 1985.

Pt. 3. *Shipping.* ed. by G. Billy, M. Lovelock and J. Nogrady. (P 1601).

BIBLIOGRAPHIC SOURCES

The most recent listing of U.S., Canadian and international references, statistical sources, bibliographies, etc.

Pt. 6, *Inland Water Transportation.* ed. by M. Roy. (P 1604).

Coverage is mostly U.S. sources such as basic references, directories, periodicals, statistical information and conferences.

Periodicals

B 041
Bureau Veritas. *Bulletin Technique.* Levallois - Perret, France: Bureau Veritas, 1979 -. Monthly (French), quarterly (English).

This publication contains technical articles on shipbuilding, conference announcements, book reviews, Bureau Veritas news, statistics, etc. It has international coverage.

B 042
Canadian Sailings. Montreal: Gallery Publications, 19- . Weekly.

Reports general shipping news and reproduces shipping line schedules. Also lists international ports served by companies represented in Canada.

B 043
Canadian Shipping and Marine Engineering. Toronto: Arthurs, 1911- . Monthly.

Technical journal for the Canadian marine community, reports on new developments, contracts, new ships, etc.

Annual Marine Equipment Buyers Directory in December issue.

B 044
Cargo Systems International: The Journal of the International Cargo Handling Coordinating Association. Worcester Park, Surrey, England: C.S. Publications, 1974 - . Monthly.

It is the official publication of the Association. Contains Association news and articles of interest in the trade.

B 045
Cold Regions Science and Technology. Amsterdam, Netherland: Elsevier Science Publisher, 1979 - . 6/year.

"Cold Regions Science and Technology is an international journal dealing with the scientific and technical problems of cold environments, including both natural and artificial environments. The primary concern is with problems related to the freezing of water, and especially with the many forms of ice, snow and frozen ground. The journal is intended to serve a wide range of specialists, providing a medium for interdisciplinary communication and a convenient source of reference.

Emphasis is given to applied science, mainly in the physical sciences, with broad coverage of the physics, chemistry and mechanics of ice, ice-water systems, and ice-bonded soils. The technology content stresses research, development and professional practice in engineering.

In addition to original papers, technical reviews and short communications, the journal includes letters, book reviews, reports of meetings and committees, and professional announcements".

Indexed: Bibliography on Cold Regions Science and Technology, Current Contents, Engineering Index, etc.

B 046
Containerization International. London: National Magazine Co. Ltd., 1976 - . Monthly.

This periodical concentrates on containerized shipping and related activities, such as terminals and hardware.

B 047
Fairplay International Shipping Weekly. London: Fairplay Publications, 1883 - . Weekly.

Formerly: *Fairplay Shipping Journal.*

British and international maritime news with regular sections on shipping prospects, marine insurance, and maritime law. Throughout the year special subject issues, including a marine insurance review in autumn, a mid-year review and final year-end summary of shipping developments (January issue).

Includes also: *World Ships on Order* (Published quarterly).

BIBLIOGRAPHIC SOURCES

B 048

Harbour and Shipping. Vancouver: Progress Publishing Co., 1918 - Monthly.

A trade journal with emphasis on Western Canadian shipping news. Timetable of arrivals to, and departures from, Vancouver port; grain shipments, etc. Annual shipping directory issue.

B 049

International Shipbuilding Progress. Rotherdam, Netherland: International Periodical Press, 1954 - . Monthly.

Devoted to theoretical and practical shipbuilding, marine-engine building and allied subjects: ship hydrodynamics, advanced techniques in shipping and ship design, strength and hull vibration, offshore and mooring problems, ship manoeuvrability and control, unconventional ship types, marine engineering, small craft and dredgers, cargo handling.

B 050

Journal de la Marine Marchande. Paris: Journal de la Marine Marchande, S.A, 1919 - . Weekly.

Articles of interest for French and international navigation, economical and statistical information, book reviews. Lists ship departures.

B 051

Journal of Maritime Law and Commerce. Washington, D.C.: Jefferson Law Book, 1969 - . Quarterly.

Devoted to international and domestic shipping law and commerce. Includes articles on maritime law, admiralty practices, marine insurance, containerization, etc.

Indexed: Legal Periodicals, Oceanic Abstracts, Pollution Abstracts.

B 052

Journal of Ship Research. New York: Society of Naval Architects and Marine Engineers. 1957 -. Quarterly.

This is the official publication of SNAME, it contains news of the Society's activities, and selected papers presented at meetings.

Indexed: Engineering Index, Oceanic Abstracts, Pollution Abstracts, Current Contents, etc.

B 053

Journal of Waterway, Port, Coastal and Ocean Engineering. New York, N.Y.: ASCE, V. 109, 1983 - . Quarterly.

Formerly: *ASCE Waterway, Port, Coastal and Ocean Division Journal*.

Technical articles in the field of civil engineering related to ports and oceans.

Indexed: Engineering Index, Current Contents, Oceanic Abstracts.

B 054

Marine Engineering Digest = Revue du Génie Maritime. Ottawa: Canadian Institute of Marine Engineers, 1981 - . Quarterly.

"The Marine Engineering Digest is a maritime journal of interest to all associated with the seas, oceans and inland waterways and their use, be it in design, construction, operation, maintenance, repair or support of vessels and waterborne structures and their equipments. It deals with marine engineering in its broadest sense and in terms of both defence and commerce with respect to regulatory requirements, search and rescue operations, scientific research, and recreation. It deals also with exploration and exploitation of renewable and non-renewable resources offshore."

B 055

Marine Engineering/Log. New York: Simmons-Broadman Publishing Corp., 1878 -. Monthly, except in June and December when semi-monthly.

Formerly: *Marine Engineering; International Marine Engineering; Marine Engineering and Shipping*.

One of the chief trade journals for shipbuilding professionals. Major articles discuss current interest topics such as automation, offshore drilling rigs. There are also national and international news briefs, product announcements, Washington update, U.S. shipbuilding report that includes a statistical survey by vessel type.

Subscription includes: *Annual Maritime Review and Yearbook*, 1942 -, and *Catalog and Buyer's Guide*.

Indexed: Engineering Index, Oceanic Abstracts, Pollution Abstracts. Applied Science of Technology Index, Current Contents etc.

BIBLIOGRAPHIC SOURCES

B 056

Marine Engineers Review. (*MER*) London, England: Institute of Marine Engineers. 1971 - . Monthly.

Devoted to all aspects of maritime engineering, they are sections on management, ship design, fuels, business news, new products information, book reviews, etc.

Indexed: Engineering Index, Oceanic Abstracts, Pollution Abstracts, etc.

B 057

Marine Propulsion International. Redhill, England: Fuel and Metallurgical Journals, 1981 - . 10/year.

Discusses topics related to the technology and economics of propellers and propulsion systems.

B 058

Marine Technology. New York, N.Y.: Society of Naval Architects and Marine Engineers. 1964 - . Quarterly.

The focus is on ship design, shipbuilding, and ship-operating systems. About seven to eight technical articles appear in each issue, as well as brief notices of the Society.

Indexed: Chemical Abstracts, Oceanic Abstracts, Current Contents, Engineering Index, Pollution Abstracts; etc.

B 059

Marine Technology Society. *Journal.* Washington, D.C.: MTS. 1966 - . Quarterly.

Formerly: *Journal of Ocean Technology.*

This publication studies all aspects of the ocean: science, law, engineering, economics. It includes papers, short technical notes, membership news, book reviews.

Indexed: Chemical Abstracts, Engineering Index, Oceanic Abstracts, Energy Information Abstracts, Current Contents.

B 060

Maritime Reporter and Engineering News. New York: Maritime Activity Reports, 1939 - . Semimonthly.

Covers latest news on ship innovations, equipment, launchings, and maritime education. Also gives news coverage to personnel developments within shipping corporations.

B 061

Maritime Research Weekly Newsletter. Parlin, N.Y.: Maritime Research Inc. 1953 - . Weekly.

The newsletter reports, each week, the fixtures made in the principal markets of the world, together with weekly indexes of international charter rates. There is an annual compilation of the newsletter.

B 062

Motor Ship. Sutton, England: IPC Industrial Press, 1920 - . Monthly.

Concerned mainly with shipbuilding and marine engineering, this publication provides technical specifications and statistics on such subjects as ships recently completed. Supplementary survey issues contain comprehensive data on ships on order and deck plans.

Indexed: Engineering Index, Current Technology Index, etc.

B 063

(The) *Naval Architect.* London, England: Royal Institution of Naval Architects, (RINA) 1860 - 10/year.

Formerly: Royal Institution of Naval Architects. *Transactions;* Institution of Naval Architects. *Quarterly Transactions;* Institution of Naval Architects. *Transactions.*

Official publication of the Institution. International in its coverage. Contains trade news, one in depth technical article. Update on rules and regulations, book reviews.

Indexed: Engineering Index, Oceanic Abstracts, Pollution Abstracts, etc.

RINA also publishes:

Occasional Publications, 1974 - . Irregular.
Supplementary Papers, 1971 - . Annual.
Symposium (Conference) Proceedings.

BIBLIOGRAPHIC SOURCES

B 064
Naval Engineers Journal. Alexandria, VA.: American Society of Naval Engineers. 1889 - . Bimonthly.

Formerly: American Society of Naval Engineers. *Journal.*

Official publication of the Society. Contains society news. Deals primarily with ships and research conducted by or for the U.S. Navy. Contains book reviews.

Indexed: Engineering Index, Current Contents, Pollution Abstracts, Metal Abstracts, Oceanic Abstracts, etc.

B 065
Naval Research Reviews. Arlington, VA.: Department of the Navy. Office of Naval Research, 1948 - . Quarterly.

Publishes articles about research conducted by the laboratories and contractors of the Office and describes important naval experimental activities. Multidisciplinary.

B 066
Navires, Ports et Chantiers. Paris: Journal de la Marine Marchande, 1949 -. Monthly.

Contains technical articles, description of ships, new developments on the field of navigation, and ocean engineering, abstracts and book reviews.

B 067
Norwegian Maritime Research. Oslo, Norway. Royal Norwegian Council for Scientific and Industrial Research. Quarterly.

Text in English.

Indexed: Engineering Index, Oceanic Abstracts, Pollution Abstracts, etc.

B 068
Ocean Engineering, an International Journal. Elmsford, N.Y.: Pergamon Press, 1968 - . Bimonthly.

A scholarly research journal currently focusing its attention on such fields as engineering, design, and construction of submersibles and other structures on the ocean bottom; engineering properties of materials for such vehicles; stress analysis of underwater structures; power and propulsion systems to propel these vehicles. It has an interdisciplinary content that embraces elements of civil and mechanical engineering.

Indexed: Engineering Index, Oceanic Abstracts, Pollution Abstracts. Current Contents, etc.

B 069
Ocean Voice; Journal of Maritime Satellite Communications. London: International Maritime Satellite Organization, 1980 - . Quarterly.

Discusses problems related to satellite navigation.

B 070
Offshore Resources; Canada's Offshore Oil and Gas and Oceanic Industries Magazine. W. Vancouver, B.C.: Duncan Cumming. 1983 - . Monthly.

The publication aims at apprising those active in Canada's resource sector, principally in the areas of oil and gas and mining, including related services, of the latest technological innovation and information pertinent to their work. The objective is to foster timely technology transfer.

B 071
Ports and Harbors. Tokyo: International Association of Ports and Harbours, (1970), 1971 - Monthly.

This is the official publication of the Association. Contains its announcement and news, international maritime information, world port news, port performance evaluation, book reviews, etc.

B 072
Safety at Sea International. Redhill, England: Fuel and Metallurgical Journals, 1967 - . Monthly.

"This is the only journal in the world devoted to the promotion of safety in the design construction and operation of shipping". Some technical articles, book reviews.

B 073
Seaports and the Shipping World: The Information Magazine of Marine Activities and Personalities in Canada. Montreal: Gallery Publications Ltd., 1927 - . Monthly.

Formerly: *Seaports and the Transport World.*

Primarily Canadian in orientation, the issues cover happenings in various trade centers with additional coverage for Australia and Great Britain. Good for the Great Lakes and the St. Lawrence River.

The *Annual Issue* 1957 - , is a directory of those involved in shipping/marine industry in Canada.

B 074

Seatrade. Colchester, England: Seatrade Publications, 1970 - . Monthly.

A multifaceted publication covering many economic aspects of world shipping and trade activities including feature articles and monthly sections on trade, energy, money, ships, techno logy, book reviews, and an annual review of shipping developments.

Included with subscription:

Seatrade U.S. Yearbook. 1979 - . Annual.
Arab Shipping. 1978 - . Annual.
Far East Shipping. 1980 - . Annual
Latin American Shipping. 1979 - . Annual.
Turkish Shipping. 1984 - . Annual.

B 075

Seaway Review: Journal of the Great Lakes/St. Lawrence Seaway Transportation System. Elmira, Mich.: Seaway Review Inc., 1970 - .

Incorporating (as of vol. 6, 1977) *Limnos*.

Articles related to the Seaway, Great Lakes, information on cargo transportation, environmental issues, statistical information, books reviews.

B 076

Ship and Boat International. Maidstone, England: Whitehall Press, 1947 -. 10/year.

An international publication for the tug and workboat industry.

Indexed: Oceanic Abstracts, Pollution Abstracts, Current Technology Index, etc.

B 077

Shipping News International. Oslo, Norway: Selvig Publishing, 1945 - . Monthly.

Formerly: *Norwegian Shipping News*.

A first-rate journal of news in shipping, mainly economic in orientation (such as articles on freight rates), with special issues for world shipbuilding, ports and harbors, ship equipment, and an annual review of world developments. Articles in English and Norwegian. Annual index.

Indexed: PAIS.

B 078

Shipping World and Shipbuilder. London: Marine Publications International, 1883 - . Monthly.

Emphasizing British and international developments, there are regular feature sections on marine law, insurance, and shipyard activities. Also book reviews.

Indexed: Engineering Index, Pollution Abstracts, Oceanic Abstracts; etc.

B 079

Society of Naval Architects and Marine Engineers. *Transactions*. New York: SNAME, 1983 - . Annual.

A compendium of papers presented at the annual meeting, as well as various section meetings, that are technical in nature and indicative of the ongoing research in the field.

See also entry for SNAME 5-183-I.

B 080

WWS/World Ports. Blauvelt, N.Y.: World Wide Shipping Guide 1914 - . 7/year.

Contains business and economic information.

Indexed: Oceanic Abstracts, Pollution Abstracts.

Conference Proceedings

B 081

Alaska/Canada North: Neighbours in Science. Alaska Science Conference, 34th, 28 September - 1 October 1983, White Horse, Yukon. Proceedings. Fairbanks, Alaska: American Association for the Advancement of Science, Arctic Division.

B 082

Arctic Offshore Technology (AOTC) Conference and Exhibition. Calgary, Alberta, November 6-9, 1984.

The conference concentrates on state-of-the-art drilling and downhole technology, examines major ice-environmental concerns and applications, assesses the economics of development, looks at future concepts and concerns, and the difficulties of maintaining safety. One session deals with vessels used in the arctic offshore fleet.

B 083

Atlantic Canada Shipping Project. Annual Conference. Proceedings. St. John's, Newfoundland: Memorial University. Maritime History Group. 1978 - .

B 084

Canadian Perspectives on the UNCTAD Code of Conduct for Liner Conferences, May 12-13, 1982. *Proceedings.* Ottawa: Government of Canada, 1982.

The conference was sponsored by Canadian Marine Transportation Administration, Transport Canada and the Research Branch of Canadian Transport Commisssion.

The focus in the papers and discussions of this Conference is on liner shipping. The papers examines the provisions of the Liner Code and their importance, the code's economic and commercial aspects, the relevant regulatory and institutional considerations that pertain to it, and its implications for foreign relations.

B 085

Canadian Shipbuilding and Ship Repairing Association. Technical Section. *Annual Technical Conference. Papers.* Ottawa: CSSRA, 1944- . Annual.

Meetings of the Association feature topics on naval architecture, shipyard management, arctic operations, and ship technology and present details of specific projects undertaken by Canadian companies.

B 086

CACTS International Conference on Air Cushion Technology. Vancouver: Air Cushion Society, Canadian Aeronautics and Space Institute, 1984.

Formerly: *Canadian Symposium on Air Cushion Technology,* 1966- .

Papers cover a broad spectrum of air cushion technology: icebreaking and heavy transporters, theory and technology, rafts and ferries, and light ACV's. Involving concepts, analysis, experiment, design, development, operations and economics.

B 087

Gastech (year) : LNG and LPG Technology Conference. Proceedings. Rickmansworth, England: Gastech Exhibitions, 1974 - . Annual.

Conference papers on recent progress in the transportation and storage of liquefied natural gas and liquefied petroleum gas, but also including broader topics, such as the energy needs of various countries.

B 088

International Association of Ports and Harbours. *Proceedings of the Biennial Conference.* Tokyo: IAPH. 1969 - .

The conference proceedings include annual financial and executive reports, the membership list and papers presented at panels and working groups. Often a special committee presents a report on some aspect of port organization, problems and advances.

B 089

International Conference on Marine Transport Using Roll-on/Roll-off Methods. RORO (year). Proceedings. Rickmansworth, England: BML Business Meetings, Ltd. Annual.

Conference papers on marine transport utilizing RORO apparatus. Presents latest developments in this form of operations and cargo handling. International in scope.

B 090

Offshore Goteborg (year). International Conference on Offshore and Marine Technology. Gothenburg, Sweden: The Swedish Trade Fair Foundation. Biennial.

Conference covers arctic exploration and production systems and arctic shipping and navigation.

B 091

International Conference on Port and Ocean Engineering under Arctic Conditions. (POAC). Proceedings. 1971 - . Biennial.

6th (POAC 81) Quebec, Canada: Université Laval, 3 vols.

7th (POAC 83) Espoo, Finland: Valtion Teknillinen Tutkimuskeskus. 4 vols.

8th (POAC 85) Greenland, Sept. 6 - 13, 1985.

Ice problems in polar marine areas and harbours, as well as ice loads on coastal structures, have traditionnaly formed the basic subject of the POAC conference. Since 1975, more and more attention has been focused on the utilization of arctic energy resources and the problems associated with the increasing industrial activities onshore and offshore. At most meetings some local questions related to the field of interest of the POAC conference have also been discussed.

B 092
International Marine Propulsion Conference. 1979 - . Annual.

Latest conference (7th) was held in London 1985. These conferences are sponsored by "Motor Ship" and the papers presented cover the field of combustion fuel, treatment, diesel power plants propellers, etc.

B 093
International Offshore Mechanics and Arctic Engineering Symposium. New York: ASME, 1982 - . Annual.

3rd: 1984: New Orleans, LA.
2nd: 1983: Houston, Tex.
1st: 1982: New Orleans, LA.

B 094
International Ship Structure Congress. 1961 - . Triennal.

7th: 1979: Paris
8th: 1982: Paris (Gdansk)
9th: 1985: Italy.

Committee reports on: environmental conditions, derived loads, linear structural response, transient dynamic loading and response, steady state loading and response, ferrous, non-ferrous and composite materials, fabrication and service factors, computation means, design philosophy and criteria, design proposals.

B 095
International Symposium on Advances in Marine Technology. Advances in Marine Technology. Trondheim, Norway: The Norwegian Institute of Technology, 1979. 2 vols.

The papers arranged under four broad headings: design, hydrodynamics, structures, machinery.

Other proceedings published:

Behavior of Off-Shore Structures.
Safety of Structures under Dynamic Loading.

B 096
International Symposium on Ice. Proceedings. International Association for Hydraulic Research (IAHR). 1970 - . Biennial.

Latest conference (7th) was held in Hamburg, August 1984. Papers presented on the mechanical properties of ice, ice hydraulics and ice control, structures in ice, ice modeling, statistics in ice engineering, navigation in ice, instrumentation.

B 097
Lips Propeller Symposium. Drunen, Netherland: Lipps B.V., 1975- . Biennial.

5th: 1983: Drunen, Netherland. (Papers). Rotterdam, Netherland: International Periodical Press, 1983.

International symposium on propellers.

B 098
Marine Technology Society. *Annual Conference. Proceedings.* Short title: *Oceans (year).* Washington, D.C.: The Society, 1974 - .

Co-sponsor: IEEE.; Oceanic Engineering Society.

Papers presented at the conferences cover the fields of ocean technology, oceanographic techniques and research, navigation, communications, shipping and marine technology, maritime law and public policy. Canadians are represented in the membership of the sponsoring organizations which also include representatives in large U.S. research establishments.

B 099
New Directions in Maritime Law: Proceedings. Halifax, N.S.: Faculty of Law, Dalhousie University. 1976 - . Biennial.

The sessions are co-sponsored by the Canadian Maritime Law Association, Canadian Bar Association Maritime Law Section (Nova Scotia Branch), Continuing Legal Education Society of Nova Scotia. Proceedings are available from the Public Services Committee, Faculty of Law, Dalhousie University.

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B 100
Offshore Technology Conference. Proceedings. Dallas: Offshore Technology Conference. 1968 - . Annual.

This annual [illegible]ence which is the "world's largest and m[illegible]nprehensive technical conference and e[illegible] on offshore resource development", is sponsored by eleven international scientific and engineering societies. The proceedings are papers presented at the conference, with accompanying diagrams, charts and drawings. The papers are arranged by conference session and cover both state-of-the-art and new technology in every field.

B 101
Permanent International Association of Navigation Congresses (PIANC). Bruxelles, Belgium. - *Proceedings.*

Congress held every 4 years.

The Association foster progress in the design, construction, improvement, maintenance and operation of inland and maritime waterways, of inland and maritime ports and of coastal areas, for the benefit of mankind, compile and publish information about subjects in its field; institute research into particular problems; organize international congresses and international and national committees, through which the experience and researches of members may interact. The knowledge so obtained is made available without exception to all whom it may benefit.

Other Publications:

Bulletin of the PIANC (3/year).

Congress Technical Papers
(10-12 vols. per congress).

Illustrated Technical Dictionary (multilingual)
10 vols.

Bibliographical Notes.

Reports of Study Commissions.

B 102
Propellers (year) New York: SNAME, 1981 - Biennial.

B 103
Ship Control Systems Symposium. Proceedings. 1966 - . Triennial.

The technical papers presented at the symposium and published in these proceedings cover the entire spectrum of ship control systems and provide an insight into technological developments which are continuously offering the ship control system designer new options in addressing the complex man/machine operation.

The sponsorship of the symposium is changing each occasion. The 7th Symposium was held in Bath England, 1984.

B 104
Ship Technology and Research (STAR) Symposium. New York, N.Y.: SNAME. 1976- . Annual.

Thematic papers presented at the Society annual spring meeting at various locations.

2nd : Energy Research in the Oceans. 1977.
3rd : Marine Horizons for the 80's. 1978.
4th : Merchant and Marine Design. 1979.
5th : Safety and Marine Environment. 1980.
6th : Ice Technology' 81. 1981.
7th : Pacific Ocean Power. 1982.
8th : Maritime Technology in the Changing World. 1983.
9th : Ship and Shore in '84. 1984.

B 105
The Study Session on Fracture Toughness Evaluation of Steels for Arctic Marine Use. Proceedings. Ottawa: CANMET, 1983. (Physical Metallurgy Research Laboratories 83-72 (OP-J).

The conference tries to answer questions of what should be the properties and standard requirements for steels for operations at low temperature and in ice covered waters.

B106
West European Graduate Education in Marine Technology.

7th: 1983: Helsinki - on arctic operations.

8th: 1983: Göteborg - on propulsionm systems and fuels.

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Directories

B 107

American Bureau of Shipping. *Record.* New York: American Bureau of Shipping. 1869. - Annual. Supplement, no. 1 -, 1949 - . Monthly.

Lists ships built to ABS classification, files vessels by flag of registry, stages of construction, place of construction, classification. Data kept as *ABSIRS,* ABC on computer file.

B 108

Arctic Marine Transportation R & D Program: Annual report. Prepared by Marine R & D/Energy, Planning, Programming and Finance Branch. Canadian Marine Transportation Administration. Ottawa: Transport Canada, Marine, 1982 - . (TP 4980).

The report contains short summaries on each of the projects on which work was done during the fiscal year. The information contained on these sheets includes the department, the project title and number (if appropriate), expenditure, the project officer, the contractor, the departmental objective, a brief project description, the status of the project, reports received, and a brief description of industrial, technical or scientific opportunities presented.

B 109

Atlantic Provinces Transportation Commission. *Directory of Ocean Containership Services Between the Ports of Halifax - St. John and World Ports.* Moncton: The Commission, 1983. Irregular.

By using schematic maps, the directory shows the routes the ships of each of several containership lines take from Halifax or Saint John. Some idea of capabilities, capacities and schedules is also given.

B 110

British Columbia Ports Handbook. Norfolk, England: Charter Publications, 1984 - . Biennial.

B 111

The Bulk Carrier Register. London: H. Clarkson and Co., Ltd., 1969 - . Annual.

A record of all bulk carriers and combined carriers in the world having a deadweight of 10,000 tons and above. Includes name of ship, deadweight tonnage, owners or managers, speed, fuel consumption, bunker capacity, year built, dimensions, holds, cargo gear and engines. Also comparative tabulations and statistics.

B 112

Canada. Ministry of Transport. *List of Shipping = Nomenclature des Navires.* Ottawa: Department of Transport, 1874 - . Annual.

Published 1874, 1875, 1878 and from 1880 to 1902, the lists were issued every three years. Annual since 1902. Contents: Pt. 1, ships on register in Canada other than fishing vessels; Pt. 2, fishing vessels on register in Canada. The original name of the department, 1867 to 1936, was the Department of Marine and Fisheries. Gives tonnage figures, length of ship, Port of Registry. When and where the ship was built, owner's name and address.

B 113

Canadian Guide: Canada's Most Up-To-Date Gazetteer and Shipper's Directory. Burlington, Ontario: Interguide Publications Inc., 1866 - . Bimonthly.

Time-tables for cities and towns, information on post offices, custom offices, banks and business centres, populations, railways, airlines, water routes, highway express package routes and intermodal freight points, etc. Publisher varies.

B 114

Canadian Ports and Seaway Directory. Including United States Ports on the Great Lakes. - Don Mills, Ontario: Southam Business Publications, 1934 - . Annual.

Formely: *Canadian Ports and Shipping Directory.*

Covers ports on the Atlantic, Great Lakes area, the Arctic and the Pacific and the St. Lawrence Seaway.

B 115

Canadian Shipbuilding and Allied Industries. *Directory of Services, Products and Facilities.* 5th ed. Ottawa: Canadian Shipbuilding and Ship Repairing Association. 1984. Irregular.

This directory describes the services, products and facilities of the leading shipbuilding, ship repair and allied industrial companies in Canada. Its main purpose is to provide potential buyers with sources of supply for ships, services and components in an easy to access way.

B 116

Containerization International Yearbook. London: National Magazine Co., 1977 - . Annual.

Different sections of the yearbook include discussion on freight conferences, analysis of container traffic; country by country surveys of port facilities, terminals and container traffic statistics, an equipment guide, list of leasing and repair companies. Register of container carrying vessels; a list of international organizations relevant to the trade and an international bibliography on containerization and associated subjects.

B 117

Directory of Canadian Scientific and Technical Databases. Ottawa: Canada Institute for Scientific and Technical Information, 1984.

The term was broadly interpreted to mean machine-readable collections of bibliographic or scientific numeric data produced, owned and maintained in Canada. International databases to which Canada makes a significant contribution have been included. The first edition, the result of a preliminary survey, lists 119 databases which are considered a significant core of existing resources.

B 118

Directory of Libraries and Collections in Transport Canada. Ottawa: Transport Canada Library and Information Centre (n.d). (TP 4437).

This directory has been compiled for the purpose of enabling users to locate unique or special collections throughout the Transport Canada Library Network. It has two parts, part one contains the description of the libraries or collections, part 2 is the index.

B 119

Directory of Marine and Freshwater Scientists in Canada - 1984 = Répertoire des experts des sciences de la mer et des eaux douces au Canada - 1984. Ottawa: Fisheries and Oceans Canada, 1984.

This is a Special Publication of Fisheries and Aquatic Sciences, no. 73, prepared by and available from the Secretariat, Canadian Committee on Oceanography.

The Directory of Marine and Freshwater Scientists in Canada -1984 is an inventory of marine and freshwater scientists and engineers in governmental organizations, universities, and industry, who are engaged primarily in research and development, and consulting. The directory also includes scientists engaged in scientific services and management.

B 120

Directory of Shipowners, Shipbuilders and Marine Engineers. London, England: IPC Industrial Press Ltd., 1902 - . Annual.

Referred to as the "Blue Book", this is the oldest international directory of the maritime industry. Entries are grouped by type and level of activity: container operations, consultants, engine builders, ferry operators, international associations, shipowners, societies, etc.

B 121

Directory of Transportation Libraries/Information Centers in North America. Rev. 4th ed. Cincinnati, OH: ATE Information Services, 1984.

Compiled by the Transportation Division, Special Libraries Association. Includes marine libraries and information centers in Canada and United States.

B 122

Fairplay World Ports Directory. London: Fairplay Publication, 1869 - . Biennial.

B 123

Fairplay World Shipping Yearbook. London: Fairplay Publication Ltd., 1974/75 - . Annual.

Lists the names, addresses, financial status of companies in the field of shipbuilding, ship repair, towing, salvage and dredging. Also lists marine insurance services and maritime organizations. Its scope is international.

B 124

Great Lakes Navigation. Montreal: Canadian Marine Publications, 1917 -. Annual.

Information on Canadian Ports. Lists ship repair and marine equipment facilities.

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B 125

Great Lakes Red Book. St. Clair Shores, Mich.: Fourth Seacoast Publishing Co. 1903 - . Annual.

Directory of commercial Canadian and U.S. Great Lakes - St. Lawrence Seaway shipping. It lists over 300 commercial Great Lakes fleets and 1,400 vessels with their dimensions, captains, chief engineers, owners and operators.

B 126

Greenwood's Guide to Great Lakes Shipping Annual Directory. Cleveland: Freshwater Press, Inc., 1958 - . Annual.

The guide contains data on bulk freighters, package freighters, crane vessels and cargo barges, self-unloaders, tank vessels, and tug vessels that operate on the Great Lakes. Also included are mileage tables and information on marine insurance companies, shipyard and repair facilities, pollution control facilities, and service industries that cater to Great Lakes shipping firms.

B 127

Lloyd's Marine Equipment Guide for Engines, Auxiliaries, Equipment and Services. Colchester, U.K.: Lloyd's of London. Biennial.

Formerly: *International Shipping and Shipbuilding Directory*, volume 2.

Lists over 28,000 products and services for the marine industry together with more than 5,000 companies worldwide. In addition it gives detailed information on marine consultants, maritime organizations and classification societies.

B 128

Lloyd's Maritime Directory. Colchester, U.K.: Lloyd's of London. Annual.

Formerly: *International Shipping and Shipbuilding Directory*, volume I.

It provides current detailed information on over 32,000 vessels and over 5,500 shipowners and managers worldwide, giving names, addresses, telephone and telex numbers. Also lists major ship management services, and details of the top 500 ports around the world.

B 129

Lloyd's Nautical Year Book. Colchester, England: Lloyd's of London Press, 1892 - . Annual.

Formerly: *Lloyd's Nautical Yearbook and Calendar; Lloyd's Calendar and Nautical Yearbook*.

Content: General articles on shipping companies, technologies, facts and figures, maritime organizations, safety at sea, salvage and cargo carriage, information on Lloyd.

B 130

Lloyd's Ports of the World. Colchester, England: Lloyd's of London Press, 1982 - . Annual.

Provides current information on over 2,500 ports, with full details on their facilities and services. Arranged geographically, with ports listed alphabetically under each country, it also contains an alphabetical index of ports.

B 131

Lloyd's Register of Ships. London: Lloyd's Register of Shipping, 1760 - . Annual. (with monthly supplement).

The Register contains the names, classes and general information concerning the ships classed by Lloyd's Register of Shipping.

See entry: 4 - 148 C for other Lloyd's publications.

B 132

Marine Equipment Directory. Montreal: Anchor Press, (n.d.). Annual.

This directory lists Canadian and international suppliers of ship and port construction and maintenance equipment. The main section lists companies by product, with a supplementary section by company including addresses.

B 133

Montreal Port and Shipping Handbook (year). Norfolk, England: Charter Publications, 1984 - . Annual.

B 134

NAVIS; Annuaire de la Marine Marchande, de la Construction Navale et des Ports. Paris: René Moreux, 1942 - . Annual.

B 135

Ports Annual. Montreal: Canadian Marine Publications, 1917 - . Annual.

67th ed. 1984. Information on Canadian ports, a guide to services and supplies. Information on ship repairs, marine equipment, offshore, air cargo, truck transport, intermodal transport. Publisher varies. Title varies.

B 136

Ports of the World. London: Benn Publications Ltd., 1896 - . Annual.

Arranged by country, entries for each port contain information on harbours, channels, berths, cargo facilities and fees structures. Information on larger coastal and inland ports is quite extensive, and schedules are detailed.

B 137

Talbot-Booth's Merchant Ships. Lt. Cmdr. E.C. Talbot-Booth, ed. and illus. New York: Nichols, 1978. 3 vols. with supplement.

A comprehensive guide to vessel identification with silhouettes and brief descriptions of each ship, plus a handy glossary of ship nomenclature.

B 138

The Tanker Register. London: H. Clarkson and Co., Ltd., 1960 - .

A record of all tankers and combined carriers in the world having a deadweight of 6000 tons and above. Tables provide the name of each vessel, a brief description, deadweight, owners or managers, speed, bunker capacity, year built, builder, dimensions, pumps, and engines.

B 139

Transportation Development Centre. *TDC project directory = CDT répertoire des projets*. Montreal: Transportation Development Centre, 1977 - . Annual. (TP 1936).

Describes projects and other significant activities of the research arm of Transport Canada, the Transportation Development Centre (TDC). It is arranged under the following sections: railway, surface, air and marine technology. These units are further subdivided into subject categories such as icebreaking and ice related research, arctic vessel research, marine transportation system studies for the marine section. Individual project data, reports that have been prepared, and the name of the organization performing the work.

Dictionaries

B 140

Aids to Marine Navigation and Marine Technology, English-French Lexicon = Aides à la Navigation et Locutions Maritimes, Lexique Français-Anglais. Ottawa: Canadian Coast Guard. Aids and Waterways, 1982.

This English/French - French/English lexicon of aids to navigation and marine terminology and other closely related subjects such as cartography, hydrography, dredging, marine meteorology, ice, ships and their equipment has been prepared by the Marine Traffic and Information Systems Division, Aids and Waterways Branch, Headquarters, Ottawa. It is intended to assist in the preparation and dissemination of Notices to Shipping, Notices to Mariners and in preparing the List of Lights, Buoys and Fog Signals. The terms, phrases and expressions contained in this document were extracted from technical dictionaries, IHO and IMCO lexicons, the Canadian Shipping Act and other reference publications as listed in the bibliography note.

B 141

Armstrong, Terence, Roberts, Brian and Swithinbank, Charles. *Illustrated Glossary of Snow and Ice*. 2nd ed. Cambridge, England: Scott Polar Research Institute, 1973.

Published in cooperation with UNESCO, this glossary provides a brief definition of each term in English, with equivalent terms in Danish, Finnish, French, German, Icelandic, Norwegian, Russian and Spanish. Indexes listing terms by language refer back to entries in the main part of the glossary. A list of references includes other glossaries and word lists in the area.

B 142

Dresler-Podlasiak, A. *Shipbuilding and Marine Engineering Terms in Five Languages*. Hamburg : Stork (K.O.), 1976.

Terms in English, French, Russian, Polish, Norwegian.

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B 143

Elsevier's Nautical Dictionary. Compiled by J.P. Vandenberghe and L.Y. Chaballe. 2nd, rev. ed. Amsterdam: Elsevier Scientific Publishing Company, 1978.

This is a polyglot dictionary in six languages: English, American, French, Spanish, Italian, Dutch and German. Areas covered are: shipbuilding, types of seagoing vessels, navigational aids, equipment, goods handling, insurance, trading, international law of the sea, port terminology, etc. There are more than 18,000 entries.

B 144

Glossary of Marine Technology Terms. London: Heinemann Institute of Marine Engineers, 1980.

Published in Association with the Institute of Marine Engineers.

Over 1,400 terms involving seamanship, ship construction, marine engineering, electrics and electronics, used in the design, construction, maintenance and operation of ships, are defined here. The glossary is both wide-ranging and concise, combining the functions of dictionary, text-book and micro-encyclopedia.

B 145

Griselin, M. *Terminologie comparée des glaces - glaces de mer - neige et glace - glaciel.* Ottawa: National Research Council Canada. Institute for Marine Dynamics, 1984. (MTB-149).

There is French definition to each term. An English index refers to the numbered and alphabetic French section.

B 146

Gruss, Robert. *Dictionnaire Gruss de Marine.* Paris: Editions maritimes et d'outremer, 1978.

B 147

Jean, Yves. *Boat and Fishing Gear.* Ottawa: Secretary of State, 1977. Terminology bulletin 158.

Covers 5,500 English terms with about 6,300 French equivalents, aimed to standardize the terminology of the technology of commercial fishing, particularly that relating to boats and gear.

B 148

Kapoor, P. *Fairplay Book of Shipping Abbreviations: Acronyms and Abbreviations Used in Shipping and International Trade.* London: Fairplay Publications Ltd., 1980.

B 149

Kemp, Peter, ed. *The Oxford Companion to Ships and the Sea.* New York: Oxford University Press, 1976.

This companion deals with terms and phrases connected with the history of seamanship, naval architecture, shipping and naval enterprises.

B 150

Karchove, René de. *International Maritime Dictionary.* 2nd ed. New York: Van Nostrand, 1961.

This is "an encyclopedic dictionary of useful maritime terms and phrases, together with equivalents in French and German." It covers commercial shipping, maritime law, ship construction, equipment, marine insurance, seamanship, etc.

B 151

Lachaine, P. *Lexicon of Ships and Shipbuilding Terms: English-French, French-English.* Ottawa: Secretary of State, Translation Bureau, Terminology Directorate, 1981.

A compilation of terms used in the field of ships and their construction. A working document for federal translators with limited distribution.

B 152

Ratcliff, Ronald; Peck, Michael A.; Maillet, Jean. *Dictionnaire Anglais- Français de Termes de Marine. English-French Dictionary of Naval Terminology.* Rev. ed. Paris: Technique et Documentation (Lavoisier), 1983.

This dictionary combines the terminology of the merchant marine and pleasure craft sailing with the working vocabulary of the "Fighting Navy".

B 153

Standard Marine Navigational Vocabulary. London: Intergovernmental Maritime Organization, 1982.

This publication is designed to standardize the language used in communications for navigation at sea, in port approaches, waterways and harbours.

B 154
Watson, G.O., comp. *Dictionary of Marine Engineering and Nautical Terms.* London: George Newnes Limited, 1964. Illus.

The aim of this dictionary is to select and define terms and expressions likely to be met with everyday contacts between persons engaged in the construction and operation of merchant ships. Definitions are presented in lay terms with extensive cross references between terms.

B 155
WMO Sea Ice Nomenclature. 1st edition. Geneva, Switzerland: WMO, 1970.

Consists of internationally used terminology in English, French, Spanish, and Russian along with illustrations from shipboard and aircraft of most of the ice features.

Economic, Legal and Statistical Information Sources

B 156
Abrahamsson, Bernhard, J. *International Ocean Shipping.* Boulder, Colorado: Westview Press, 1980.

"The purpose of this book is to provide a basic text in international ocean shipping and to serve as a basis both for an understanding of how the industry functions and for the problems and issues that arise because of its international character. No attempt is made to pass judgment on the relative merits of various developments, arguments, or positions. Rather, the effort is to clarify concepts and principles and explain how various aspects of ocean shipping relate to each other. Although the focus is on international shipping, the first four chapters include general concepts and principles applicable to all modes. These concepts are then applied to the specific mode of international shipping."

B 157
Canadian Transport Commisison. Research Branch. Transport Industries Analysis Directorate. *Maritime Transport of Bulk Commodities in Canadian Trade: Some Basic Data in the Context of United Nations Initiatives.* Ottawa: 1982. (Canadian Transport Commission. Research Branch; no. 1982/O7E).

Provides some overview on current situation of marine traffic to and from Canada. Special emphasis is placed on organizing and presenting pertinent data to assess some of the economic implications for Canada of potential cargo sharing.

B 158
Canadian Marine Statutes

Canada Shipping Act. Ottawa, 1981 - (TP 2542)
Pilotage Act. Ottawa, 1984 - (TP 2458)
The St. Lawrence Seaway Authority Act. Ottawa, 1984 - (TP 3983)
Department of Transport Act. Ottawa, 1984 - (TP 5548)
Safe containers Convention Act. Ottawa, 1984 - (TP 5163)
Arctic Waters Protection Act and Regulations.

These publications are available in English and French (print or microfiche) from : Ottawa: Canadian Government Publishing Centre.

B 159
Croner's World Directory of Freight Conferences: A Guide to Freight Conferences Throughout the World. New Malden, England: Croner Publications, 1965 - . Monthly.

"Provides international companies throughout the world with the basic freight conference information that they need to know when shipping their goods from country to country. This information is also useful to national companies with a high export and/or import turnover as well as to forwarders, shipping companies, port authorities, marine insurance companies, international or overseas divisions of banks and any other company or organization that is involved in the movement of international sea freight.

The opening section contains the Conference Codes, one of which was drawn up by the United Nations Conference on Trade and Development (UNCTAD) and the other by the Council of European and Japanese National Shipowners' Association and the National Shippers' Council of Europe.

Part One covers conferences and agreements operating from the United Kingdom to various destinations throughout the world and includes a Table of Freight Terms and a list of countries for which contracts are available.

Part Two deals with conferences and agreements operating from and to the United States of America, and Part Three with other countries in the world where conferences are established."

There is an alphabetical and a country index. This publicaiton is a guide not an official source of information.

B 160

Dechênes, Bernard M. *Study on Marine Casualty Investigations in Canada.* Ottawa: Supply and Services Canada, 1984.

Mr. Deschênes was appointed to carry out an independant study on the effectiveness and impartiality of marine casualty investigations in Canada. Information was obtained through Transport Canada departmental files and personal interviews. Canadian and other countries legislations and investigatory practices and procedures were studies. The Canadian marine community was consulted and public meeting held. Interim recommendations were made.

B 161

Final Survey Study for Great Lakes and St. Lawrence Seaway Navigation Season Extension. Detroit, Michigan: U.S. Army. Corps of Engineers, Detroit District, 1979. 6 vols.

This final report evaluates six proposals, considering various season lenghts and geographic coverages, to further extend the navigation season on the entire Great Lakes/St. Lawrence Seaway System up to 12 months on the upper four Great Lakes, and up to 11 months on the Welland Canal, Lake Ontario and the International Section of the St. Lawrence River. Extension to 12 months on the St. Lawrence River is not considered possible at this time due to the potential need for lock twinning which is outside the scope of this study. Extension up to 11 months on the Welland Canal and on the St. Lawrence River is uncertain at this time because it is not presently possible to define with a high degree of certainty the Canadian position. This report relates U.S. costs to U.S. benefits.

B 162

Heaver, Trevor D. *National Flag Shipping: An Analysis of Canadian Policy Proposals.* Vancouver, B.C.: The Centre for Transportation Studies, 1982.

In chapter II, the general nature of international shipping services and the development of Canadian shipping policy are reviewed. In chapter III, the various interest groups in Canada affected by the national shipping policy are described and their views summarized. In chapter IV, the following questions are considered: whether the provision of specific tax and financial measures would enable Canadian shipping to expand and whether the measures would impose costs on other taxpayers. In Chapter V, the development of protectionist shipping policies by other countries is examined, and the implications for alternate Canadian policy measures are considered. In Chapter VI, the question is considered as to whether the economic benefits of Canadian-flag shipping would warrant subsidies to shipowners. In Chapter VII the special case of Arctic shipping is examined, and the conclusions of the paper are presented in Chapter VIII.

B 163

Livanos, Marc M. and Halpin, Jarold J. *Maritime Law: A Primer.* New Rochelle, N.Y.: Caratzas Bros., 1978. 107 p.

A brief introduction to the more practical aspects of the subject with examples of the legal forms used.

B 164

Lloyd's Register of Shipping: Statistical Tables. London: Lloyd's Register of Shipping. 1878 - . Annual.

A yearly statistical review of various characteristics of the world merchant fleet. Tables supply data on the different types of ships, their sizes and ages, new ships tonnage, propulsion analyses and summaries of ships launched and lost.

B 165

Maritime Transport. Paris: Organization for Economic Co-operation and Development (OECD), 1954 - . Annual.

Describes international shipping developments during the year in the context of national and international shipping policies, discusses recent trends in shipping demand and supply shows how the interaction of supply and demand was reflected in the world freight markets during the year. The relation between grt, dwt and cgrt is taken up in an annex and the report is accompanied by a statistical annex which brings together the principal elements of international seaborne trade and bulk commodities, the world fleet and the various freight markets.

B 166

Royal Commission on the Ocean Ranger Marine Disaster (Canada). *Reports.* St. John's. Nfld.: The Commission, 1984-85.

Chairman: T.A. Hickman.

The two reports of the Royal Commission consist of four volumes.

Volume 1 : *Report One: The Loss of the Semi-submersible Drill Rig Ocean Ranger and its Crew.*

Volume 2: *Report Two: Safety Offshore Eastern Canada.*

Volume 3: *Report Two : Summary of Studies and Seminars.*

Volume 4 : *Report Two: Safety Offshore Eastern Canada. Conference Proceedings.* (1984: St. John's, Nfld.)

The Royal Commission was given a mandate in two parts: the first, to launch a formal inquiry into the loss of the Ocean Ranger and its crew; the second involved a process of study and consultation through which ways and means of improving the safety of Eastern Canada offshore drilling operations may be identified.

Available: Ottawa: Supply and Services Canada.

B 167

Ruppenthal, Karl M. et al. Canada's Ports and Waterborne Trade. Vancouver: Centre for Transportation Studies, University of British Columbia, 1983.

This book includes many Canadian statistics. Its purpose is to show what types of goods and commodities Canada exports, in what volume, in what dollar value, and to whom. It gives similar figures for Canada's imports. By providing statistics for several years, trends can be noted, and forecasts may be improved.

B 168

St. Lawrence Seaway Authority. *The Seaway: Operations, Outlook, Statistics = La Voie Maritime: Exploitation, Prévisions, Statistiques.* Ottawa: The Authority. Annual.

Annual review of the Seaway operation. Traffic review and outlook. General and statistical information on traffic and cargoes of grain, iron, coal, bulk and general cargo.

B 169

Shaw, Gordon C. *The Market Potential for Canadian-Registered Vessels Capable of Carrying Both Great Lakes and Ocean Cargoes.* Ottawa: Canadian Transport Commission, 1981. (Report no. 30-81-05).

"The purpose of this study is to investigate the experience with, and the potential markets for, Canadian-registered, dry-bulk vessels which can carry cargoes both on the Great Lakes and on the oceans.

This report is primarily concerned with the markets and economics for these ocean/laker and laker/ocean vessels, the prospects are also discussed for other Canadian-registered vessels presently used for both Great Lake and ocean voyages. The extent to which these combination lake and ocean ships would become the nucleus of a Canadian-registered ocean merchant fleet is discussed as well."

B 170

Shaw, Gordon C., and Cook, Wade D. *A Forecast of the Canadian Dry-bulk Vessel Requirements on the Great Lakes in 1990.* Toronto: University of Toronto/York University Joint Program in Transportation, 1982. (Toronto University of Research report, York University, Joint Program in Transportation; no. 83)

Estimates the number of Canadian registered Great Lakes dry bulk vessels which will be required to carry the expected water borne dry bulk traffic within the Saint Lawrence-Great Lakes system in 1990. Forecasts the number of tonnes for each trade and for each commodity and allocates those tonnes among the several sizes and types of vessels according to the precise requirements of each trade.

B 171

Shipping Statistics Yearbook: Facts and Figures about Shipping, Shipbuilding, Sea Ports and Seaborne Trade. Bremen, Germany: Institute of Shipping Economics 1973 - . Biennial.

Comprehensive statistics on the world merchant fleet, shipping statistics by countries, shipbuilding, and port statistics.

B 172

Transport Maritime: Etudes et Statistiques. Paris: Comité Central des Armateurs de France, 1956 - . Annual.

Formerly: *Marine Marchande: Etudes et Statistiques.*

Very important international statistical source.

B 173

(UNCTAD) United Nations Conference on Trade and Development. *Review of Maritime Transport.* Geneva: UNCTAD, 1969 - . Irregular.

World-wide review of merchant fleet development, international seaborne trade, changes in freight rates and world ship prices. Very useful for a global perspective of progress in the field.

Available in English, French and Spanish.

Handbooks, Manuals and Basic Texts

B 174

American Practical Navigator. Washington, D.C.: Defense Mapping Agency. Hydrographic Center, 1977. 2 vols.

Originally published by Nathaniel Bowditch in 1802 and popularly known as "Bowditch", it is one of the most widely known and used compendiums of navigation information. Volume II consists of tables, formulas and instructions for computations.

B 175

Arctic Marine Design and Construction Handbook. Fenco Engineers Inc. Montreal: Transportation Development Centre, 1984. 2 vols. (TP 5727).

This reference document, in two volumes, provides a compendium of information and current practice in the design and construction of arctic marine structures. It presents information on the Canadian Arctic related to economic resources, environmental, ice and geotechnical conditions and provides essential technical information upon which design criteria for wind, waves, currents, snow loads, ice forces and geotechnical conditions are based. It discusses existing engineering guidelines, regulations, standards and various options for the design and construction of ice resistant structures and identifies information deficiencies in these areas and indicates where research and development is required. A selective, annotated bibliography, sources and titles of pertinent technical publications and a list of agencies and organizations providing information on the Arctic, are also provided.

B 176

Canadian Coast Guard. *Code of Recommended Standards for the Prevention of Pollution in Marine Terminal Systems.* 2nd edition. Ottawa: Coast Guard, 1983. (Canada. Ministry of Transport; TP 743).

The 'TERMPOL' code is a code of a recommended standards for the prevention of pollution in marine terminal systems. It outlines acceptable ship terminal standards, defines the ship terminal system analysis and assessment criteria and develops operating practices and procedures for ship terminals.

B 177

Canadian Coast Guard. *Ice Navigation in Canadian Waters = Navigation dans les Glaces en Eaux Canadiennes.* Ottawa: Supply and Services, 1980.

Provides information on ice advisory and ship support services available in Canada. Describes regional ice conditions in Canadian waters, requirements and available services for ships operating in ice.

B 178

Canada. Hydrographic Service. *Sailing Directions.* Ottawa: Dept. of Fisheries and Oceans, 19 - . Irregular.

Emphasises chartered detail and contains information needed for safe navigation. Issued in separate volumes for each of 9 navigational regions. Intended for use in conjunction with specified nautical charts. Kept up to date by corrections issued in section 4 of Notices to Mariners.

B 179

Evans, J. Harvey. *Ship Structural Design Concepts, Second Cycle*. Centreville, MD.: Cornell Maritime Press, 1983.

Separate chapters discuss shear stresses associated with bending, torsion, hull-deck house interaction, principal stresses in the hull girder, hull girder deflections and stiffness, longitudinal strength experiments, and choice of framing systems.

B 180

Great Lakes Ice Atlas. Ann Arbour: National Oceanic and Atmospheric Administration. Great Lakes Environmental Research Laboratory, 1983. (NTIS no. PB84 160811).

Covers: Ice cover concentration climatology, ice thickness near shore locations, seasonal variation, freezing, etc.

B 181

Harvald, Sv. Aa. *Resistance and Propulsion of Ships*. New York: Wiley-Interscience, 1983.

"This book elucidates some of the numerous problems regarding resistance and propulsion of ships. The goal is to present to students and engineers who have no particular training and experience in ocean engineering a synthesis of the analytical and practical considerations needed for the design and selection of a propulsion system for a new ship."

B 182

Jane's Merchant Ships. London: Jane's, 1982 - . Biennial.

Provides essential data on the merchant vessels of the world, it employs the Talbot-Booth system of vessel identification. Vessels are grouped according to similarity of shape all drawn to a common scale. Also includes flag, date and country of building, weight, dimension and speed.

Other Jane's publications:

Jane's Freight Containers. 1968 - . Annual.
Jane's Surface Skimmers. 1966 - .
(Air cushion vehicles).
Jane's Fighting Ships. 1887 - .
(Includes icebreakers).

B 183

Ice Atlas: Canadian Arctic Waterways. Ottawa: Environment Canada. Atmospheric Environment Service, 1981.

Weekly ice charts dealing with Arctic waters, include geographical reference charts, median amounts of all ice, maximum and minimum conditions, winter conditions. Textual information on ice patterns, freeze up and breakup patterns, ice movements, icebergs, climatic conditions.

Also published: *Ice Atlas - Eastern Canadian Seaboard*. (1980).

Supplement to Ice Atlas (1983).

B 184

Lloyd's Maritime Atlas. Colchester, England: Lloyd's of London, 1951 - . Biennial.

The atlas (14th ed., 1984) has 28 pages maps covering the world and 89 inset maps showing major ports in detail. Dry dock facilities are shown on all maps. Ports are listed in geographical order, with its latitude and longitude. Distance tables, wind and weather zones, time differences etc. are also shown.

B 185

Marine Engineering. Roy L. Harrington, ed. New York: SNAME, 1971.

Basic, very detailed reference source.

B 186

Meyers, Arnold, ed. *Guide to Information Sources in Marine Technology*. Edinburgh, U.K.: Institute of Offshore Engineering, Heryot-Watt University, 1978.

B 187

Noel, John V., Jr. *Knight's modern seamanship*. New York: Van Nostrand Reinhold, 1977.

A basic source and classic reference work for merchant ship officers containing sections on the various elements of ship structural design, ship operations, cargo stowage, ship handling, oceanography, meteorology, and the rules of navigation.

B 188

Principles of Naval Architecture. Revised ed. New York: SNAME, 1967.

The purpose of this book is to cover adequately the field of naval architecture in one text. The theoretical aspects are thoroughly presented and the discussion is illustrated by practical problems and tables of data. Throughout the work emphasis has been placed on the merchant ship. Generally, in this book, U.S. practice and regulations are implied. There is a bibliography at the end of each chapter.

B 189

St. Lawrence Seaway Authority. *The Seaway Handbook* / issued by the St. Lawrence Seaway Authority and Saint Lawrence Seaway Development Corporation. Ottawa: Information Canada. Irregular.

Contains the Seaway Regulations and other information pertinent to the use of the Seaway: tariff of tolls, wharfage and storage charges tariff, information on vessel transit and equipment requirements, general seaway plan. Kept up-to-date by amendments and consolidations.

B 190

Saunders, Harold E. *Hydrodynamics in Ship Design*. New York: SNAME, 1957.

This book endeavors to give to the naval architect and marine engineer a basic as well as a practicing knowledge of what are admittedly extremely complex problems in hydrodynamics. It presents a collection, correlation, classification, and explanation of the best available knowledge on and the application of hydrodynamics in ship design.

B 191

Smith, F.G. Walten, ed. *Handbook of Marine Science*. Cleveland: CRC Press, 1974. 3 vols.

These three volumes draw together constants, tables and properties covering the major disciplines which relate to oceanography. Volume I is most relevant to marine transportation problems as it includes material from chemical and physical oceanography, atmospheric science, marine geology and ocean engineering.

B 192

Taylor, D.A. *Introduction to Marine Engineering*. Boston: Butterworth, 1983.

Ceased Services

B 015

Ship Abstracts: Information Service on Ship Technology, Ship Operation and Ocean Engineering. Trondheim - NTH, Norway: Ship Research Institute of Norway. 1973-1984. 10 issues per year.

Ship Abstracts was produced as a joint venture by Maritime Information Centre/CMO, The Association of Finnish Shipbuilders, The British Ship Research Association, The Ship Research Institute of Norway, and The Associations of Swedish Shipbuilders and Shipowners. The Abstracts were drawn from approximately 800 periodicals, report series and technical/economical papers from all over the world. It has subject, author and ship-name indexes.

Ship Abstracts ceased to be an independent publication at the end of 1984. It is incorporated into the BSRA Journal of Abstracts.

B 193

MARITIME RESEARCH INFORMATION SERVICE (MRIS). Washington, D.C.: National Research Council, Commission on Sociotechnical Systems, Maritime Transportation Research Board. June 1970-1980.

"... a system for acquisition, selection, storage, retrieval, and dissemination of references to proposed, ongoing, and completed research and development projects and to technical reports and journal articles in the maritime field." Sources of titles and abstracts include the U.S. government, engineering and marine materials, British Ship Research Association and Ship Research Institute of Norway.

Database is still searchable online on Dialog as TRIS subfile (MRIS). Final input 1981 August.

Also Published:

Marine Systems in Frigid Environments - Special Bibliography. 1978.

Maritime Information Sources: A Guide to Current Data. Second edition 1979.

Cumulative Index 1970-1976.

MRIS Subject Term (Keyword) Index.

The following publications ceased:

MRIS Abstracts (semi annual) 1970-1980

Current Awareness Bulletin. (monthly).

Organizational Sources

Government

ALBERTA RESEARCH COUNCIL (ARC)
CIVIL ENGINEERING DEPARTMENT

4th Floor, Terrace Plaza
4445 Calgary Trail South
Edmonton, Alberta T6H 5R7
(403) 438-1555 Telex: 037-2147

Dr. Harrington, R.A. - Research Officer

OBJECTIVES/FUNCTIONS

The Council conducts research in industrial development, resource evaluation, primary industries, transportation and environmental studies.

ACTIVITIES

The division is involved in research on load-bearing capacity of floating ice, ice forces on bridge piers, river mechanics and channel regime.

INFORMATION SOURCES AND SERVICES

Large file of hydrometric surveys of the rivers of Alberta since 1963 resulting from field observations.

Raw data collected during experiments.

Hydrometric surveys, hydrograph analysis, synthesis and interpretation, turbulent and diffuse mixing studies and analysis.

PUBLICATIONS

Alberta Research Council. *Annual Report.*
Bulletin.
Earth Sciences Report.
Earth Sciences Notes.
Information Series.
Atmospheric Sciences Report.
Contributions.

Details as to price and availability provided in *New Publications* distributed by:
Publications
Alberta Research Council
11315-87 Avenue
Edmonton, Alberta T6G 2C2

1-002-G

Suite 1203, Bank of Montreal Tower,
5151 George Street,
Halifax, Nova Scotia B3J 1M5
(902) 426-2550 Telex 019-22622

Latter, A.D. - Chairman

ATLANTIC PILOTAGE AUTHORITY (APA)

OBJECTIVES/FUNCTIONS

The function of the Atlantic Pilotage Authority is to provide an efficient and safe pilotage service to ships within the Atlantic region, that is, in all Canadian waters in and around the provinces of Nova Scotia, Prince Edward Island, Newfoundland and New Brunswick including the waters of Chaleur Bay south of Cap d'Espoir.

ACTIVITIES

Carry out statistical forecasting on an annual basis.

Collect statistical data on ships serviced annually.

Liaison with shipping interests, government agencies and departments.

INFORMATION SOURCES AND SERVICES

APA maintains computer print-outs on statistical forecasting and statistical data as mentioned in "Activities". These data are kept in chronological order for an indefinite period. Data can be made available to outside researchers depending on the nature of the material required and the cost of producing it.

PUBLICATIONS

Annual Report.
Atlantic Pilotage Authority Regulations.
Atlantic Pilotage Tariff Regulations.

All three are available by contacting the APA office.
Regulations are published in the *Canada Gazette*.

Suite 210,
236 St. George St.,
Moncton, N.B.
A1C 1W1
(506) 857-2820

Mailing address:
P.O. Box 577,
Moncton, N.B.
E1C 8L9
Telex: 014-2842

ATLANTIC PROVINCES TRANSPORTATION COMMISSION (APTC)

Dickson, Craig S. - General Manager

OBJECTIVES/FUNCTIONS

To obtain for persons and industries in the Atlantic provinces the best transportation service possible at a cost which will permit the Atlantic Provinces to compete in the markets of Canada and throughout the world.

ACTIVITIES

The maintenance of files of carriers/tariffs and other publications to provide shippers, receivers and non-government agencies with data and expertise on rates and charges by all means of transport.

To circulate information on transportation developments including rates, service and policy changes.

To negotiate with carriers or their agencies on behalf of transportation users.

To assist industries or groups in the Atlantic provinces in the preparation and presentation of submissions and representations to the federal government or its agencies.

INFORMATION SOURCES AND SERVICES

The APTC maintains a comprehensive set of tariff rates by all modes. It holds ocean liner conference tariff rates to a number of world ports from Canada, and has a somewhat smaller set of rates for inbound trade. Rate information is kept for approximately five years and is relayed on a daily basis in a Rate Advice service to Atlantic Provinces shippers.

PUBLICATIONS

Directory of Ocean Containership Services. Between the ports of Halifax-Saint-John and world ports. Issued yearly.

Tips & Topics. Monthly newsletter.

Transportation Review and Annual Report. Issued yearly.

Rate Advices. Daily to Atlantic Provinces shippers (over 8000 issued annually).

ADDITIONAL INFORMATION

Sponsors or co-sponsors from time to time seminars on specific transportation topics as appropriate in various locations throughout the Atlantic Provinces.

1-004-G

ATMOSPHERIC ENVIRONMENT SERVICE (AES)

ENVIRONMENT CANADA
Ice Branch

4905 Dufferin Street,
Toronto, Ontario M3H 5T4
(416) 667-4727 Telex: 06-964582

Champ, Don - Director

OBJECTIVES/FUNCTIONS

Supports shipping and other offshore activities by providing timely information on sea-ice and icebergs; both analyses and forecasts of concentrations, characteristics, movement and growth or decay.

ACTIVITIES

Aerial ice reconnaissance using visual and remote sensing mapping techniques, interpretation of satellite and other remotely sensed imagery, and ship-borne and shore ice reports are combined to provide near-real time ice data and analyses.

Ice information is disseminated in various forms ranging from real-time tactical support of vessels to ice climate and structure design advice.

Specific forecast and climate services.

Develop improved services through ice research and development, ice information product development and the development of reconnaissance systems.

Users include Canada Coast Guard, Canada Oil and Gas Lands Administration and the shipping, petrochemical and fishing industries.

INFORMATION SOURCES AND SERVICES

AES Library
4905 Dufferin St.
Downsview, Ont.
Canada M3H 5T4
(416) 667-4500
see entry: 1-006-G

Canadian Climate Centre
4905 Dufferin St.
Downsview, Ont.
Canada M3H 5T4
(416) 667-4500

Files can be consulted at the library. Copies of ice data sets are available on a reproduction cost recovery basis. Written communication is required.

Courses can be arranged by contracting the Director.

PUBLICATIONS

see: Ice Climatology and Application Division.

ADDITIONAL INFORMATION

Other office: Ice Centre, Environment Canada
365 Laurier Avenue West
Ottawa, Ont K1A 0H0
(613) 995-6818

Comprises: Ice Forecasting Central
(see entry: 1-006-G)
Ice Climatology and Applications
(see entry: 1-005-G)
Ice Products Development
Ice Research and Development

ATMOSPHERIC ENVIRONMENT SERVICE (AES)
ENVIRONMENT CANADA
Ice Climatology and Applications Division (ACIC)

365 Laurier Ave. W.,
Ottawa, Ontario, K1A 0H3
(613) 995-6730 Telex: 053-6731

Mudry, D. - Chief

OBJECTIVES/FUNCTIONS

National archive of operational sea ice and iceberg information.

Provides consultative services.

Issues publications relating to sea ice.

Performs special studies.

ACTIVITIES

Maintains charts of seasonal distribution patterns of sea ice covering Canadian waters.

Maintains all remotely sensed data covering Canadian waters, including satellite imagery, laser profilometer data, side-looking airborne radar (SLAR), and aerial photography.

Publishes annual summary of ice thickness measurements taken at selected Canadian stations and updated Ice Atlases.

Provides general consultative services with regard to ice conditions and may provide special studies on a cost-recovery basis when time permits.

INFORMATION SOURCES AND SERVICES

Ice charts are available from 1959 to the present in either hard-copy format or on microfilm.

Iceberg information from 1916 to the present is available in either hard-copy format or computer formats.

Ice thickness data from 1958 to the present and related air temperature data from 1953 to the present are available in either hard-copy format or computer formats.

Satellite imagery is archived from 1970 to the present in hard-copy format.

Infrared line scanner data is archived from 1972 to 1983 on paper trace or continuous film.

Laser profilometer data is available from 1973 to the present as analyzed from paper trace.

Side-looking airborne radar (SLAR) is available from 1978 to the present on continuous film.

Aerial photography data is available from 1972 to the present on 70 mm film.

Copies of most data sets are available on a reproduction cost-recovery basis.
Written communication is required.

All data sets are available for free in-house viewing.

Library: Canadian Climate Centre
4905 Dufferin Street
DOWNSVIEW, Ontario
M3H 5T4

Courses/Meetings

Courses can be arranged by contacting:

Director
Ice Branch
4905 Dufferin Street
DOWNSVIEW, Ontario
M3H 5T4

PUBLICATIONS

Ice Thickness Data for Selected Canadian Stations, Freeze-up 1978 - Break-up 1979. (This is a yearly publication. Cost $4.50 and is available by writing to Ice Climatology and Applications Division.)

Ice Atlas - Canadian Arctic Waterways. (Cost $120.00 and is available through D.S.S.)

Ice Atlas - Eastern Canadian Seaboard. (Cost $7.50 and is available through D.S.S.)

Supplement to Ice Atlas - Canadian Arctic Waterways. (Cost $15.00 and is available through D.S.S.)

Note: Ice Atlas - Hudson Bay and the Labrador Coast. (To be available in 1985)

1-006-G

ATMOSPHERIC ENVIRONMENT SERVICE (AES)
ENVIRONMENT CANADA
Ice Forecasting Central

Journal Tower South,
365 Laurier Ave., W.
Ottawa, Ontario K1A 0H3
(613) 996-5236 Telex 053-3761

Beaton, A.P. - Chief

OBJECTIVES/FUNCTIONS

Ice Forecasting Central is the government agency responsible for the provision of current ice information and forecasts for Canadian waters in support of the marine industry.

ACTIVITIES

Ice data from aerial reconnaissance, satellites, ships, and shore reports are collected and analysed. Ice charts and forecasts are prepared daily in areas where ice poses a hazard to marine activity.

Ice forecasts and bulletins are distributed to marine radio stations for broadcast, and are also available through a dial-in computer controlled telex service. Instructions and a "menu" are available through the above telex number.

INFORMATION SOURCES AND SERVICES

All incoming ice charts, satellite imagery, and other data are turned over to the Ice Climatology and Applications Division for archiving. (see entry: 1-005-G)

Box 1006,
Dartmouth, Nova Scotia B2Y 4A2
(902) 426-3675 Telex: 019-31552

Sutherland, Elizabeth J.
Head, Library Services

BEDFORD INSTITUTE OF OCEANOGRAPHY (BIO)

The Bedford Institute of Oceanography is a Government of Canada research complex in Dartmouth, Nova Scotia. The Institute conducts oceanographic studies and hydrographic surveys in a wide range of marine environments. Seven main groups affiliated with three departments are housed at BIO:

- the Atlantic Oceanographic Laboratory, Marine Ecology Laboratory, and Institute Facilities constitute Ocean Science and Surveys, Atlantic, of the Department of Fisheries and Oceans;
- the Marine Fish Division, Resource Branch, Fisheries Management, Department of Fisheries and Oceans;
- the Atlantic Geoscience Centre is part of theGeological Survey ot Canada, Science and Technology, Department of Energy, Mines and Resources;
- the East Coast Office of the Resource Management and Conservation Branch is part of the Energy Policy Sector of the Department of Energy, Mines and Resources;
- the Seabird Research Unit is part of the Canadian Wildlife Service, Environmental Management Service, Department of the Environment.

OBJECTIVES/FUNCTIONS

The business of the Institute is the production of new knowledge about the marine environment and of new technology to observe and measure that environment. In addition to basic research devoted to the acquisition of new knowledge and to the understanding of the oceans, coastlines and estuaries,the Institute continues to emphasiz environmental problems and marine resources. Hydrographic charting and geoscience mapping account for a largeproportion of the effort.

ACTIVITIES

Charting of coastline and seabed and tidal surveys;participation in a deep sea mooring and in the Deep Sea Drilling Project: geophysical studies of shelf and margins; participation with the U.K. on exploration of the mid-Atlantic range; analysis of statistical wave information in studies of wave generation; studies in the Labrador Sea of deep water convection; study of the Deep Gulf Stream; design of surface buoys; development of automated navigation system "Bionay"; development of off-line programs for navigation problems.

INFORMATION SOURCES AND SERVICES

A special collection of environmental assesment documents relating to projects off Eastern Canada and in the Arctic is being developed.

The library houses about 13,500 volumes of report and monograph literature including POAC material, offshore conference proceedings, pilot series, material on coastal engineering. 2,100 periodicals. Good retrospective collection of oceanographic material. The library collects exhaustively in Canadian oceanographic material, research material in French and English internationally. 20,000 fiche are housed including NTIS material and BIO reports.

A collection of 20,000 maps and charts is housed elsewhere at the Institute.

A complete set of Canadian Hydrographic Service Charts and field sheets and coastal topographic maps is held by the Regional Hydrographer.

BEDFORD INSTITUTE OF OCEANOGRAPHY (BIO)

INFORMATION SOURCES AND SERVICES (cont'd)

The Library is a member of the Nova Scotia On-line Consortium with on-line access to DIALOG, SDC, CAN/OLE, Q.L., RESORS, etc. A complete listing is available from the Library.

PUBLICATIONS

Bio Review (annual) Latest 1984.

Selected reports in the following DFO series:

Canadian Technical Report of Fisheries and Aquatic Sciences.

Canadian Data Report of Fisheries and Aquatic Sciences.

Canadian Technical Report of Hydrography and Ocean Sciences.

Canadian Data Report of Hydrography and Ocean Sciences.

Publications from the Bedford Institute of Oceanography, 1962-1981.

Canadian Technical Report of Hydrography and Ocean Sciences no. 5 (1985).

ADDITIONAL INFORMATION

The Bedford Institute operates a permanent fleet of four ships as well as a number of launches and chartered vessels in support of the Institute's research and survey activities.

1-008-G

100 Cameron Street,
Moncton, New Brunswick E1C 5Y6
(506) 858-3611 Telex : 014-2833

CN MARINE INC.

Madelaine Delaney-Leblanc
Director, Public Affairs

ACTIVITIES

CN Marine owns and operates 17 Atlantic ferries and coastal boats. The fleet, under contract to the Government of Canada, carries passengers, vehicles and freight to and from Canada's two island provinces, the outports of Newfoundland and Labrador and across the Bay of Fundy between Nova Scotia, New Brunswick and New England.

INFORMATION SOURCES AND SERVICES

Information and enquiries about internally produced reports of CN Marine provided upon application to M. Delaney-Leblanc, Director of Public Affairs and Marketing, (506) 858-3641.

PUBLICATIONS

Echo. 1976 - . Bimonthly magazine. Free of charge to employees and customers.

Annual Report.

Sounding. 1979 - . Summary of related news clippings.

CN Marine News. Ad hoc news releases.

7171 Belfast Road,
Ottawa, Ontario
K1A 0Y7
(613) 993-9900

Mailing address:
2464 Sheffield Road,
Ottawa, Ontario
K1A 0Y7
Telex: 05-33777

Dr. Ryerson, R.A.
Head, User Assistance and Marketing

THE CANADA CENTRE FOR REMOTE SENSING (CCRS)

ENERGY, MINES AND RESOURCES CANADA

OBJECTIVES/FUNCTIONS

The development and demonstration of systems, methods and instruments to acquire, disseminate and analyse remote sensing data from aircraft and satellite as a contribution to the development of effective information systems for Canada's land and ocean resources and environment.

ACTIVITIES (Marine related)

Cooperative research in-house and through contractors in such areas as sensor-development for oil detection, modelling of ice flow movement hydrographic mapping, and water quality studies. Provision of information for navigation. Ice surveillance by means of satellite and air reconnaissance.

INFORMATION SOURCES AND SERVICES

RESORS data bank - most extensive on-line database in the world on remote sensing, contains about 19,500 fully indexed documents originating from government, universities and industry. Scope is international and dates from 1960.

Available to outside researchers with computer terminal free of charge. Searches on the data base are conducted free of charge. Photocopies resulting from RESORS searches are charged at 0.22$/page (minimum charge $2.50). Written enquires should be addressed to RESORS, at the Centre's address.

Landsat Imagery Library - photographs resulting from satellite reconnaissance. File covers all of Canada and Canadian waters, dates from 1972. Shows extent and movement of sea ice. Catalogued by quality, date and geographic location. May be accessed on-line or by purchase of microfiche version. Updated regularly. Prices for fiche contact prints are subject to change annually (new prices are usually announced on July 1). Digital imagery data formats also are available. Enquiries to Jean Heffernan, (613) 995-1210.

Technical Information Service - in addition to RESORS and Imagery, a small working collection of bibliographic, periodical material. Library includes a documents collection of 45,000 items on remote sensing. 35 mm slide collection of several thousand items. Enquiries related to the library collection handled by Brian McGurrin, (613) 995-5645.

Conferences/Courses

Regional co-ordinators within provincial governments hold brief workshops on remote sensing.

Annual meeting of Canadian Advisory Committee on Remote Sensing. Report published by Centre. Committee has working groups on ice, oceanography.

PUBLICATIONS

CCRS Newsletter. Quarterly to members of mailing list.
CCRS Research Report (series)
CCRS Technical Note (series)
A Guide to RESORS V : Remote Sensing On-Line Retrieval System, CCRS.
RESORS V Remote Sensing On-Line Retrieval System: Dictionaries.
Landsat Imagery Catalogue Picture Centre Listing, May 1977.
CCRS Publications.
List available from Canada Centre for Remote Sensing, Technical Information Service, 717 Belfast Road, Ottawa, Ontario K1A 0Y7.

320 Queen Street
Tower A, Place de Ville
Ottawa, Ontario K1A 0N6
(613) 996-6400 - Telex: 053-4127

Robertson, Lisa
Industry and Government Relations

CANADA PORTS CORPORATION

OBJECTIVES/FUNCTIONS

Canada Ports Corporation was established by the Canada Ports Corporation Act 1983. This Act amended the National Harbours Board Act of 1936, the government Harbours and Piers Act and the Harbours Commissions Act. Reporting to Parliament through the Minister of Transport, Ports Canada is a Schedule C2 Crown Corporation.

Ports Canada is responsible for administering the fifteen major ports including the ongoing maintenance, upgrading and major expansions to port facilities.

Ports Canada's mandate is clearly stated in the Canada Ports Corporation Act:

- to support the efficient achievement of Canada's economic and social objectives; both nationally and internationally
- to provide the users of Canada's ports with accessibility and equitable treatment
- to provide local port corporations with a high degree of autonomy while ensuring the integrity of the national ports system
- to coordinate Canada's ports system with other transportation systems in Canada and abroad.

The 1983 ports legislation gives power to establish local port corporations at any of the 15 Ports Canada ports. In 1983 and 1984, local port corporations were created in Vancouver, Prince Rupert, Montréal, Québec, Halifax and St. John's. Other non-corporate ports were located in: Saint John, New Brunswick; Belledune, New Brunswick; Chicoutimi, Québec; Baie des Ha! Ha!, Québec; Sept-Iles, Québec; Trois-Rivières, Québec; Prescott, Ontario; Port Colborne, Ontario and Churchill, Manitoba.

INFORMATION SOURCES AND SERVICES

Library collection of technical reports and data prepared for Ports Canada concerning the operations of Canadian Ports.

The collection can be accessed through Bernie Bisson, Library Services Officer. Tel. no. (613) 993-6876.

PUBLICATIONS

Annual Report.

1-011-G

9th Floor, Headquarters,
Tower A, Place de Ville
Ottawa, Ontario K1A 0N7
(613) 992-6816
Stephen, T.J.
Director, Planning and Programming

CANADIAN COAST GUARD
TRANSPORT CANADA

OBJECTIVES/FUNCTIONS

The Canadian Coast Guard is an operational component of the Canadian Marine Transportation Administration (CMTA) of Transport Canada. Its objective is to ensure safe and efficient navigation in Canadian waters.

ACTIVITIES

Marine Navigation Systems :

- developing, deploying, operating and maintaining fixed i.e. lightstations and floating conventional aids to navigation.
- provision of Coast Guard radio stations, beacons, LORAN C navigational aids.
- provision of vessel traffic service (VTS) centres in support of the marine community in selected waterways.
- provision of waterways development program of applied research particularly with respect to waterways engineering hydraulics, dredging and shoreline protection.

Icebreaking, Arctic and Other Ship Support :

- utilization of icebreakers, helicopters and other facilities to effect the safe and expeditious movement of marine traffic through ice covered waters.
- prevention of flooding caused by ice jams on the St. Lawrence River
- support of non Coast Guard activities such as re-supply of Arctic settlements and Arctic hydrographic surveys etc.

Marine Search and Rescue:

This is a major component of the Federal government's overall Search and Rescue (SAR) program for which the responsibility minister is that of National Defence.

Coast Guard's mandate includes:

- provision of marine search and rescue capability in form of rescue lifeboats, cutters and hovercraft.
- development and delivery of a boat safety program through educational and public awareness programs.
- promotion of the Canadian Marine Rescue Auxiliary (CMRA) as a means of augmenting available SAR resources.

Regulatory :

- development and promulgation of regulations and standards pursuant to the Canada Shipping Act
- inspection of ships and ships' equipment, oil drilling rigs and cargoes to ensure seaworthiness
- registration of ships and licensing of vessels and air cushioned vehicles
- support and monitoring of the marine safety training program
- examination and certification of officers and crews
- surveillance, investigation and enforcement of pollution regulations in regard to ships
- maintenance of a marine pollution countermeasures and clean-up capability to respond to pollution incidents

CANADIAN COAST GUARD
TRANSPORT CANADA

ACTIVITIES
Regulatory (cont'd)

- review, analysis and approval of works constructed in navigable waters (administration of the Navigable Waters Protection Act.)
- Maritime Code development (to update the Canada Shipping Act).

INFORMATION SOURCES AND SERVICES
There are a variety of files, records, reports andstatistical data covering a number of years on a variety of Coast Guard activities.

A large percentage of the information is available through the:

Transport Canada Library and
Information Centre
Place de Ville, Tower "C"
Ottawa, Ontario
K1A 0N5

and the Transport Canada Records system managed by the department's

Administration Services Branch
Place de Ville
Ottawa, Ontario
K1A 0N5

SELECTIVE LIST OF CCG PUBLICATIONS
1. *Notices to Mariners* - Annual Edition
2. *Annual Index of Notices to Mariners*
3. *List of Lights, Buoys and Fog Signals*
   a) Atlantic
   b) Inland
   c) Newfoundland
   d) Pacific
4. *Equipment Specifications for MF and HF Ship Radio Stations*
5. *Equipment Specifications for VHF Ship Radio Stations*
6. *Standards for Radio Installations and Related Equipment*
7. *EPIRB Standards*
8. *Radio Aids to Marine Navigations*
   a) Pacific
   b) Atlantic and Great Lakes
9. *LORAN C Receiver Operation*
10. *Canadian Code of Safe Practices for Ships CarryingTimber Deck Cargoes*
11. *Construction Standards for Small Vessels*
12. *Equivalent Standards for Fire Protection of Passenger Ships*
13. *Guide to Helicopter - Ship Operations*
14. *Interim Standards Respecting Mobile Offshore Drilling Units*
15. *Marine Automation Standards*
16. *Personal Safety on Ships*
17. *Recommended Code of Nautical Procedures*
18. *Routing Standards*
19. *Ship Safety Electrical Standards*
20. *Standard for Engineering Watchkeeping of Ships*
21. *Standard for Plastic Piping and Non-Metallic Flexible Hose for Use on Board Ship*
22. *Standard for the Control of Gas Hazards in Vessels to be Repaired or Altered*
23. *Standard Marine Navigational Vocabulary*
24. *Standards for Navigation Lights, Shapes, Sound Signals Appliances and Radar Reflectors*
25. *Standards for Radio Installations and Related Equipment*
26. *Structural Fire Protection Standards, Specifications, Procedures and Testing*
27. *Your Personal Flotation Device*
28. *Courtesy Examination Manual - Pleasure Craft 19 Fishing Vessel*

CANADIAN COAST GUARD
TRANSPORT CANADA

SELECTIVE LIST OF CCG PUBLICATIONS
(cont'd)

29. *Manual Safety and Health for Fishermen*
30. *Safe Boating Guide* (TP 511)
31. *Sailing Plan*
32. *SAR in Canada*
33. *Standard Marine Distress Signals*
34. *Uninspected Fishing Vessel Guide*
35. *The Canadian Coast Guard Officer Training Plan* (TP 437)
36. *CCG Careers: Professional Engineer* (TP 2769)
37. *CCG Careers: Engineering Technician* (TP 2770)
38. *Canadian Marine Transportation Administration* (TP 2941)
39. *Canadian Coast Guard* (TP 1842)
40. *Oil Pollution* (TP 2526)
41. *The New Canadian Buoyage System*
42. *Canadian Marine Rescue Auxiliary*

ADDITIONAL INFORMATION
Regional Offices:

Newfoundland Region
Canadian Coast Guard
P.O. Box 1300
St. John's, NFLD. A1C 6H8
Contact person: D.F. Terris
Regional Manager, Planning
and Programming
Telephone: (709) 772-4477

Maritimes Region
Canadian Coast Guard
P.O. Box 1013
Dartmouth, N.S. B2Y 4K2
Contact person: Judith Love
A/Regional, Planning and
Programming
Telephone: (902) 426-2177

Région des Laurentides
Garde côtière canadienne
104 rue Dalhousie
Québec (Qué.) G1R 2B5
Contact person: R. Thériault,
Gestionnaire régional -
Planification et programmation
Telephone: (418) 694-3022

Central Region
Canadian Coast Guard
One Yonge Street
20th Floor,
Toronto, Ontario M5E 1E5
Contact person: A. Barkas,
Regional Manager Planning and
Programming
Telephone: (416) 369-2337

Western Region
Canadian Coast Guard
224 West Esplanade
North Vancouver, B.C. V7M 3J7
Contact person: S. Clarke,
Regional Manager Planning and
Programming
Telephone: (604) 984-3760

Northern Directorate
Canadian Coast Guard -
Headquarters
Place de Ville
Ottawa, Ontario K1A 0N7
Contact person: Carol Stephenson,
Director, Northern
Telephone: (613) 995-7412

1-012-G

Library
1190 Westmount Rd
Sydney, N.S.
B1P 6L1
(902) 564-3660

Mailing address:
P.O. Box 4500,
Sydney, N.S.
B1P 6L1
Telex: 019-35185

CANADIAN COAST GUARD COLLEGE (CCGC)

MacSween, David - Librarian

OBJECTIVES/FUNCTIONS

To support the learning functions of the college.

INFORMATION SOURCES AND SERVICES

Library collections in all marine fields.

Special collection of ships magnetism and the magnetic compass.

Available to outside researchers by personal visit. ILL service provided.

PUBLICATIONS

Library bulletin of selected acquisitions.

Periodicals list.

A.V. list.

1-013-G

303 Main Street,
Winnipeg, Manitoba R3C 3G8
(204) 949-2770 - Telex: 07-57451

Blanchard, J. - Librarian

CANADIAN GRAIN COMMISSION

OBJECTIVES/FUNCTIONS

Pursuant to the Canada Grain Act, the Canadian Grain Commission must, in the interest of grain producers, regulate grain handling in Canada and establish and maintain standards of quality for Canadian grain to ensure a dependable commodity for both domestic and export markets. The Commission is responsible for carrying out the provisions of the Canada Grain Act. It must, through close contact with all segments of the grain industry, develop and implement policies to meet the broad objectives of the Act.

ACTIVITIES (marine related)

The Economics and Statistics Division gathers and processes statistics on grain movements.

The Grain Research Laboratory collects and distributes statistics on exports of durum and other classes of wheat.

The Laboratory analyses samples from grain shipments which are tabulated and summarized annually.

INFORMATION SOURCES AND SERVICES

The material presented in the statistical publications is also housed on computer tape. Statistics for earlier years are available in various formats which can be assessed on a need-to-know basis.

The information in the Commission library is open to all, except for the recent technical reports prepared by the Grain Research Laboratory. It is open 8:15 - 4:30.

PUBLICATIONS (marine related)

Grain Statistics Weekly - Includes receipts and shipments of grain by type from eastern and western terminal points.

Exports of Canadian Grain and Wheat Flour - Monthly. Includes overseas clearances of Canadian grains by seaboard ports and overseas clearances of Canadian grains by destination.

Canadian Grain Exports - Annual. Includes distribution of exports by country of final destination and by port of loading and a table on the cost of moving wheat.

Statement of Vessel Loads at Thunder Bay - Weekly. Summary of vessels loaded by destination and accumulative season of navigation figures.

Canadian Durum Cargoes - Quarterly.

Canadian Wheat Cargoes - Quarterly.

Annual Report, Canadian Grain Commission.

1-014-G

CANADIAN HYDROGRAPHIC SERVICE (CHS)

OCEAN SCIENCE AND SURVEYS

Department of Fisheries and Oceans

615 Booth Street,
Ottawa, Ontario K1A 0E6
(613) 995-4437
Telex: 053-4228 Cable (DFO/MPO-OTT)

MacPhee, S.B. - Director General
Gervais, R.F. - Chief, Hydrographic Information

OBJECTIVES/FUNCTIONS

To carry out surveys and publish nautical charts and related publications covering Canada's coasts, continental margins, inland navigable waters and adjacent oceans of interest to Canada.

ACTIVITIES

Publication of nautical charts, sailing directions, tide and current tables, small craft guides, natural resource maps and the fifth edition of the General Bathymetric Chart of the Oceans. The carrying out of the surveys necessary for their publication and maintenance.

INFORMATION SOURCES AND SERVICES

Over 6,500 field sheets are held showing the data collected in surveys from 1883 to date. These are accessible to outside researchers by written request or by visit to headquarters or the regional offices listed below. Charges are made to cover the costs of reproduction.

Information concerning positions of horizontal control survey points, tide gauges and benchmarks is available by written request or by visit to headquarters or the regional offices.

Conferences/Meetings

A Canadian Hydrographic Conference is held every two years and is open to all. It is held in the spring of the year and rotates among the regional offices of CHS. It is well advertized in such publications as *Canadian Surveyor, Lighthouse*. Flyers are distributed to previous attendees. Earlier proceedings were published as a separate product. Currently proceedings are published as a special issue of *Lighthouse; Journal of the Canadian Hydrographers Association*.

Courses

Four training courses, primarily intended for CHS staff are offered each year, however other personnel may be accomodated if space is available and if the candidates meet the required prerequisites. The courses are Hydrography I, Hydrography II, Cartography I and Cartography II.

PUBLICATIONS

Activity Report 1983-84.

Marine Science Papers. A joint publication of CHS, Department of Fisheries and Oceans and the Geological Survey of Canada, Department of Energy, Mines and Resources. Published irregularly, once or twice a year.

Notes on the Use of Loran-C Charts, Second Edition, December, 1983. A free 21 page pamphlet giving information on the Loran-C system, charts and usage. English and French versions are available from the Chart Distribution Offices.

Numerous nautical charts and related publications are published. These are catalogued in: *Catalogue of Nautical Charts and Related Publications*. Ottawa: CHS. Four catalogues are published listing charts covering the areas: Atlantic, Pacific, Great Lakes and other inland waters, Arctic and the Mackenzie Waterway. The catalogues are updated annually and are available free of charge from the Chart Distribution Offices, 1675 Russel Road, P.O. Box 8080, Ottawa K1G 3H6, (613) 998-4931. Institute of Ocean Sciences, Patricia Bay, 9860 West Saanich Road, P.O. 6000, Sidney, British Columbia V8L 4B2 (604) 656-8358 Telex 049-7281 and Canada Centre for Inland Waters, P.O. Box 5050, 867 Lakeshore Road, Burlington, Ontario, L7R 4A6 (516) 637-4337 Telex 061-8296.

CANADIAN HYDROGRAPHIC SERVICE (CHS)
OCEAN SCIENCE AND SURVEYS
Department of Fisheries and Oceans

ADDITIONAL INFORMATION
Regional offices:

Regional Director (Atlantic)
Canadian Hydrographic Service
Department of Fisheries and Oceans
Atlantic Oceanographic Laboratory
Bedford Institute of Oceanography
P.O. Box 1006
Dartmounth, Nova Scotia
B2Y 4A2

Regional Director (Central)
Canadian Hydrographic Service
Department of Fisheries and Oceans
Canada Centre for Inland Waters
867 Lakeshore Road, P.O. Box 5050
Burlington, Ontario
L7R 4A6

Directeur Régional
Région du Québec
Service hydrographique du Canada
Ministère des Pêches et des Océans
P.O. Box 15 500, 901 Cap Diamant
Québec, Québec
G1K 7X7

Regional Director (Pacific)
Canadian Hydrographic Service
Department of Fisheries and Oceans
Institute of Ocean Sciences
9860 West Saanich Rd. P.O.Box 6000
Sidney, British Columbia
V8L 4B2

1-017-G

CANADIAN NATIONAL RAILWAYS
HEADQUARTERS LIBRARY

935 Lagauchetière St., West
P.O. Box 8100
Montreal, Quebec, H3C 3N4
(514) 877-5234 Telex: 012731

Martinello, Gilda
Senior System Librarian

OBJECTIVES/FUNCTIONS

To provide work-related information to CNR employees in support of all company interest and activities.

INFORMATION SOURCES AND SERVICES

The library acquires and organizes published reports, papers, books on transportation and related subject areas. Primary interest is in the economics and technology of railroads; other modes are also represented in the collection. Material on containerization, intermodal transport, materials handling, and port operations is also collected. Coverage is international.

The collection currently has approximately 35,000 books; 1,000 periodical subscriptions; 8,000 technical reports on microfiche.

The marine portion of the collection includes directories, reports, periodicals, abstracting services, on-line access to bibliographic data bases.

Services available include reference, information referral, on-line literature searching, interlibrary loan.

The collection may be used by the public on appointment only. Publications may not be borrowed; photocopying facilities available. Interlibrary loan service.

PUBLICATIONS

Current Awareness Bulletin. 1976 - Bi-weekly. This is distributed at no charge to employees and selected transport libraries.

Periodicals, in subject order, routed from Headquarters Library. Biennial.

1-018-G

15 Eddy Street
Hull, Quebec K1A 0N9
(613) 997-2034
Telex: 053-4254 053-3615

Kelso, Burton F.
Director of Transport Industries
Analysis Directorate

CANADIAN TRANSPORT COMMISSION (CTC)
RESEARCH BRANCH

OBJECTIVES/FUNCTIONS

The Research Branch provides research support to the Commission and its committees, responds to requests from Transport Canada, and carries out other relevant research as required under the various provisions of the National Transportation Act.

ACTIVITIES

The Research Branch comprises four directorates.The Transport Industries Analysis Directorate concentrates on marine economics, shipping issues, multimodal transport and trucking. The branch studies the operations and practices of shipping lines serving the Canadian liner trades and plans an active role in the Interdepartmental Committee on the Shipping Conferences Exemption Act.

INFORMATION SOURCES AND SERVICES

Files are related to individual projects only and contain letters, telegrams, selected documents and statistics frequently of a commercially sensitive nature.

Library:
M. Lovelock
(819) 997-7642

The collection of the library reflects its interests in economic regulations of transportation. The material acquired in the marine mode emphasizes the legal, economic and statistical aspects of the subject.

PUBLICATIONS

Transport Intelligence Report. CTC Research Branch, Economic and Social Research Directorate. Monthly statistical information.

Transport Review. CTC Research Branch. (Bi-Annual). Presents an overview of trends in transport and in the economy.

Research Reports of CTC (marine related).

Canadian Overseas Exports of General Cargo and Port Activity in Eastern Canada, by M. Archambault, 1984/05.

Shipping Conference Freight Indices for Canadian Export Trade 1984/01.

The Supply of Liner Shipping to Canada, by R. Abbott et al. 1984/03.

Pricing in the Liner Shipping Industry: A Survey of Conceptual Models. 1983/04.

Liner Conference Freight Index for Canadian Exports, by Ingrid A. Byou. 1982/01.

Maritime Transport of Bulk Commodities in Canadian Trade: Same Basic Data in the Context of United Nations Initiatives. 1982/07

The Market Potential for Canadian-Registered Vessels Capable of Carrying Both Great Lakes and Ocean Cargoes, by G. Shaw, bil. 30-81-05.

Research Seminar Series, Fall 1981, Volume 7. Including: *Organizing an Information System of Maritime Transport Statistics for Developing Countries.*

Research Seminar Series, Spring 1981, Volume 6. Including: *Potential for Great Lakes Shipping. A Canadian Merchant Marine: How, Why and When?*

Research Seminar Series, Fall 1980, Volume 5. Including: *French Shipping Policy. Inland Water Transport System and Transport Links in Europe.*

Canadian Perspectives on the UNCTAD Code of Conduct for Liner Conferences: Proceedings.

CANADIAN TRANSPORT COMMISSION (CTC)
WATER TRANSPORT COMMITTEE

15 Eddy Street
Hull, Quebec K1A 0N9
(819) 997-6489 - Telex: 053-4195

Vanasse, D.

OBJECTIVES/FUNCTIONS

The Water Transport Committee has responsibility for administering the Transport Act, Shipping Conferences Exemption Act 1979, Pilotage Act, Part XV of the Canada Shipping Act, Coasting Trade Exemption Regulations, St. Lawrence Seaway Authority Act and for providing information and advice on water transportation matters.

ACTIVITIES

Conducts hearings and inquiries.

Undertakes studies of various marine transportation subjects.

Keeps up-to-date computerized data on Canadian flag ships of 100 grt and over and publishes the WTC's Canadian Merchant Fleet Annual Lists giving particulars of approximately 3,000 Canadian flag vessels.

INFORMATION SOURCES AND SERVICES

A computerized data bank on Canadian registered ships over 100 tons. The file also contains information on ship owners and operators. Available in manual form. Contact H. Eichner (819) 997-1227.

The **International Shipping Division of the Merchant Shipping Branch** of the Water Transport Committee maintains up-to-date and accessible to the public tariff and agreement filed by Conferences pursuant to Shipping Conference Exemption Act, 1979. These files are available for viewing but information on tariffs will not be given over the telephone. Contact Byron Johnson, (819) 997-1213.

Canadian Transport Commission Library:
Ms. M. Lovelock
Librarian
(819) 997-7642
Accessible to outside users.

P. Schnobb
Information Division
Chief, Communication
(819) 997-0344

PUBLICATIONS

Canadian Merchant Fleet Annual Lists. Distributed free of cost. List A, vessels 1000 gross tons and over; B, ships over 100 gross tons; C, tugs over 100 gross tons; D, ferries over 100 gross tons; E, government owned and operated self propelled ships over 100 gross tons; G, H, non self-propelled vessels over 100 gross tons. Lists give ship particulars with indexes of areas of service, shipowners and vessel names.

Annual Report to Parliament on the Operations of the Shipping Conferences Exemption Act, (1979 -). Available from the Chief, Information Services of the Commission on request, no cost.

Orders and Decisions of the WTC - available from Orders and Decisions Section, Canadian Transport Commission, Ottawa, Ontario K1A 0N9, no cost.

1-020-G

423 Main Street,
Winnipeg, Manitoba R3C 2P5
(204) 949-3421 - Telex: 07-57801

CANADIAN WHEAT BOARD

Morriss, John - Director of Information

OBJECTIVES/FUNCTIONS

To market in interprovincial and export trade, grain grown in Western Canada at the best price that can be obtained; to provide prairie grain producers with price stability and to ensure that each grain producer gets his fair share of the available markets each year; to book lake freight and co-ordinate movement of lake vessels for grains marketed by the Canadian Wheat Board.

INFORMATION SOURCES AND SERVICES

Various statistical files are established and held by different departments as operating files to meet their specific needs. The Transportation Department receives Statistics Canada material, individual grain companies' crop reports and Canadian Grain Commission Services.

The Board is an operating organization. If an outside researcher requests specific information and provides "need to know" details, information may be supplied.

An informal library performs a strictly circulation function.

Conferences/Meetings

During crop year 1983-84, a series of eleven meetings was held, one in each of the eleven Advisory Committee districts.

Courses/Programs

The Board co-operated in the establishment of the Canadian International Grains Institute which offers courses on the Canadian and world grain industry in areas such as marketing, processing, technology, handling, storage and transportation.

PUBLICATIONS

Canadian Grain Handbook - Crop Year 1983-84.

Report to Producers 1982-83. Reviews market developments through the crop year and gives a complete breakdown of financial statements for each pool account.

Annual Report. 1983-84.

Grain Matters. Monthly.

ADDITIONAL INFORMATION

Branch offices:

Board of Trade Building
300 St. Sacrement Street
Montreal, Quebec H2Y 1X4
(514) 849-6261

650 Marine Building
355 Burrard Street
Vancouver, B.C. V6C 2G8
(604) 666-2992

COMMUNICATIONS RESEARCH CENTRE. CANADA.

DEPARTMENT OF COMMUNICATIONS
Radar Research Laboratory (RRL)

3701 Carling Avenue
P.O. Box 11490, Station "H",
Ottawa, Ontario, K2H 8S2
(613) 998-2204
Marwood, G.J. - Manager, Surface Radar

OBJECTIVES/FUNCTIONS

To carry out research into technology for automatic target detection and tracking and their application to shipborne surveillance radar. Research is carried out on the behalf of the Department of National Defence.

INFORMATION SOURCES AND SERVICES

The CRC library contains a large number of technical reports bearing upon the objectives/activities described above. Some are of a classified nature. Ms. C. Kelly, Librarian, (613) 998-2202.

CONSUMER AND CORPORATE AFFAIRS CANADA

Intellectual Property Directorate
Commissioner of Patents

Place du Portage, Tower 1
50 Victoria Street
Hull, Quebec K1A 0C9
(819) 997-1810

Paulhus, Ed

OBJECTIVES/FUNCTIONS

The Patent Office, in granting of patents for inventions, gathers technological information from world-wide sources and disseminates it in Canada to encourage the creation, adoption, and exploitation of inventions.

ACTIVITIES

The Patent Office includes several thousand documents on marine transportation technology classified to allow easy retrieval of the information. Upon request through provincial research organizations or innovation centers, the Patent Office will provide a survey of the state of the art based on patent documents in any stated field of technology.

INFORMATION SOURCES AND SERVICES

Patents contain a description of the invention involved, along with mention of the best way of using or making the invention. They cover virtually all areas of technology. The information is of a practical nature supported by drawings but includes as well the known theoretical basis of the invention. The proprietary information is defined in the claims of the patent, but much of the technology is in the public domain and is freely available to all.

Canadian and U.S. patents may be searched in the classified sets in the Patent Office, Place du Portage, 10th floor, 50 Victoria Street, Hull, Quebec.

Lists of Canadian patents in a given specific field may be requested from the Patent Office (4 pages free). Titles and abstracts of the patents may be seen at the nearest library having the Patent Office Record.

Technological information searches performed by Patent Office personnel may be arranged through provincial research councils and innovation centers at rates set by these organizations.

A number of commercial electronic databases are available that include recent patent documents.

Inquiries Unit
(819) 997-1936

Private citizens can call their local Canada Service Bureau (consult the blue pages) and ask for the above number in the National Capital.

PUBLICATIONS

Patent Office Record. Weekly. Canadian Government Publishing Center - Supply and Services Canada - Hull, Quebec, K1A 0S9

ADDITIONAL INFORMATION

A lecture on patents and other forms of intellectual property can be given to interested people by Patent Office staff at mutually convenient times. Inquiries should be directed to:

Public Education Program
Intellectual Property Directorate
Consumer and Corporate Affairs Canada
Hull, Quebec
K1A 0C9

McGill University. Montreal has "The Canadian Patent Index" and "The Canadian Patent Office Record" (abstracts).

1-023-G

ENVIRONMENT CANADA
ENVIRONMENTAL PROTECTION PROGRAMS DIRECTORATE
Environment Protection Service (EPS)

Place Vincent Massey
351 St. Joseph Blvd.
Hull, Quebec K1A 1C8
(819) 997-1298 - Telex: 053-4567

Higgins, P.M. - Director General

OBJECTIVES/FUNCTIONS
As related to marine transportation, the EPS is involved in the control and prevention of spills of oils and other hazardous materials. Specifically, its functions include the reporting of and response to spill accidents, contingency planning for spill accidents, prevention programs, and research and development programs designed to improve oil and chemical spill countermeasures.

ACTIVITIES
A number of research projects are underway to develop spill countermeasures for accidents resulting from various activities including marine transportation.

Collection and study of spill accident statistics is made on a continuing basis.

INFORMATION SOURCES AND SERVICES
The service holds the necessary maps, data, etc., necessary to perform its functions. These data are items which are normally made available to the public in a variety of publications. Normally, there is no fee charge for technical reports. Non-government researchers may not access the complete data base on spill accidents and must pay for computer access.

The library attached to the organization is: D.O.E. Library, 2nd Floor, Place Vincent Masse, Department of the Environment, Ottawa, Ontario, K1A 1C8. A. Bystram - Director of Library.
Tel. No. (613) 997-2485.

Courses/Programs
Courses on oil and chemical spill response are offered periodically.

Attendance is usually selected by industry and government personnel; those available to the public are announced in the bi-monthly Newsletter or by direct correspondence.

PUBLICATIONS
Spill Technology Newsletter (ISSN 0381-4459) published bi-monthly, free.

A technical publications list is available although publications are limited in quantity.

ADDITIONAL INFORMATION
Regional Offices:
Atlantic Region - Halifax, Nova Scotia
(902) 426-2576
Quebec Region - Montreal, Quebec
(514) 283-2345
Ontario Region - Toronto, Ontario
(416) 966-5840
Western and Northern Region - Edmonton, Alberta (403) 420-2580
Pacific and Yukon Region - Vancouver, B.C.
(604) 666-6711

1-024-G

FEDERAL ENVIRONMENTAL ASSESSMENT REVIEW OFFICE (FEARO)

200 Sacre-Coeur Blvd,
Hull, Quebec K1A 0H3
(819) 997-1000 - Telex: 053-3608

Parkinson, Douglas,
Information Officer

OBJECTIVES/FUNCTIONS

FEARO administers the environmental assessment and review process (EARP) for the Minister of the Environment. EARP is used to determine the potential environmental and directly related social effects of all proposals to be undertaken by the federal government, or in which the government is involved. This is done by departments, early in planning, before irrevocable decisions are made. When there are potential significant environmental effects, the proposal is referred to the Minister and an independent panel is appointed that holds public hearings and makes a report to the appropriate Ministers who make the decisions.

ACTIVITIES

Public reviews: for example, the Arctic Pilot Project, the Beaufort Sea Hydrocarbon Production and Transportation proposal, and the proposed expansion of the Port of Quebec.

INFORMATION SOURCES AND SERVICES

Files are related to specific reviews; a major one is the **Information Documentation of the Beauport Sea Review**. These files are available for consultation by personal visit.

Office library: Mary-Margaret Healy - (819) 994-2578.

PUBLICATIONS

Arctic Pilot Project (Northern Component). N.W.T. (October, 1980).

Beaufort Sea Hydrocarbon Production and Transportation. (Final Report) (July, 1984).

These documents are available from:

Federal Environmental Assessment Review Office
200 Sacre-Coeur Blvd
Hull, Quebec
K1A 0H3

ADDITIONAL INFORMATION

Regional office: Vancouver, Suite 700, 789 West Pender St., V6C 1H2.

135 Lombard Avenue
Winnipeg, Manitoba R3B 0T4
(204) 949-3212 - Telex: 07-587622

GRAIN TRANSPORTATION AGENCY (GTA)

Solossy, Dorothy - Executive Assistant

OBJECTIVES/FUNCTIONS

Facilitates grain movement.

INFORMATION SOURCES AND SERVICES

Statistical data on grain movements are available.

PUBLICATIONS

Update (quarterly) - free.

Annual Review - free.

ADDITIONAL INFORMATION

Regional Offices:

Grain Transportation Agency
Room 323
33 S Court Street
P.O. Box 2174
Thunder Bay, Ontario
P7B 5E8
Tel: (807) 345-0222

Grain Transporation Agency
P.O. Box 11148 Royal Centre
Vancouver, B.C.
V6E 3P3
Tel: (604) 666-0091

GREAT LAKES PILOTAGE AUTHORITY LTD. (GLPA)

132 2nd Street E.
Cornwall, Ontario
K6H 5K9
(613) 933-2991

Mailing address:
P.O. Box 95,
Cornwall, Ontario
K6H 5K9
Telex: 05-811565

Gravelle, B.N. - General Manager
Childerhose, R.M. - Manager, Fin.&Admin.

OBJECTIVES/FUNCTIONS

The Great Lakes Pilotage Authority was established on February 1, 1972 pursuant to The Pilotage Act as a subsidiary of the St. Lawrence Seaway Authority. The objectives of the Authority are to establish, operate, maintain and administer safe and efficient pilotage service within all Canadian waters in the Province of Quebec, south of the northern entrance to St. Lambert Lock, and all Canadian waters in and around the Provinces of Ontario and Manitoba.

INFORMATION SOURCES AND SERVICES

Statistics are maintained for internal use only.

605 James Street North,
Hamilton, Ontario L8L 1K1
(416) 525-4330 - Telex: 061-8638

Hennessy, R.R. - Port Director

THE HAMILTON HARBOUR COMMISSIONERS (HHC)

OBJECTIVES/FUNCTIONS

The administration, operation and development of Hamilton Harbour - a seaway port of both national and regional importance.

ACTIVITIES

General port administration.

Terminal and wharf operation.

Harbour maintenance.

Port planning and engineering.

Development of new port facilities.

Policing.

Marketing and trade development.

Recreational development in the harbour.

INFORMATION SOURCES AND SERVICES

Files cover all aspects of the port operation. Tonnage statistics and maps, Port Master Plan held. General information is available through the Trade and Development or Public Relations Department.

Information on port operation is available. It can be obtained through personal visits, or by written requests. Usually, there is no charge for this material.

PUBLICATIONS

Annual Report.

Portfolio - Twice yearly information magazine.

INSTITUTE OF OCEAN SCIENCES (I.O.S.)
OCEAN INFORMATION DIVISION
Department of Fisheries and Oceans

P.O. Box 6000,
9860 West Saanich Road
Sidney, B.C. V8L 4B2
(604) 656-8335 - Telex: 0497281

Wilson, Robert..- Chief

OBJECTIVES/FUNCTIONS

Through the Ocean Information Division, the Institute of Ocean Sciences compiles and assesses oceanographic, climatological and environmental data. It also provides information to the media and public and provides information and advice to regulatory agencies.

ACTIVITIES

Provision of reports which compile and assess physical, chemical and biological data pertaining to the marine environment in the N.E. Pacific and Arctic.

Provide oceanographic advice of matters related to ocean dumping, offshore resource exploration and marine transportation in the N.E. Pacific and western Arctic.

Collection and interpretation of climatological data in the N.E. Pacific.

INFORMATION SOURCES AND SERVICES

Technical records cover all industrial activities and in particular oil and gas exploration in the marine regions of the N.E. Pacific and western and central Arctic. Records include marine environmental data reports from public and private sources. An interactive computer based system is used to identify oceanographic data by type, geographic area, quality, etc. The computer based system provides information in a printed and map based format.

Data compilation and assessment reports are available on request at no charge.

Individuals may gain access to technical records by personal visit as material cannot normally leave the premises.

Information from the computer based system can be provided on request. Normally no charge is levied for the provision of this service.

Library. Institute of Ocean Sciences - Sharon Thomson, Librarian, (604) 656-8392. Network affiliation: Sciencenet.

Media Relations. Institute of Ocean Sciences; Kate Glover. (604) 656-8217.

PUBLICATIONS

Data Compilation And Appraisal Reports:

Cornford, A.B., D.D. Lemon, D.B. Fissel, H. Melling, B.D. Smiley, R.H. Herlinveaux and R.W. Macdonald. 1982. *Arctic Data Compilation and Appraisal. Beaufort Sea: Physical Oceanography - Temperature, Salinity Currents and Water Levels.* Cdn Data Report Hydrog. Ocean Sciences. No. 5, Vol. 1.

Thomas, D.J., R.W. Macdonald and A.B. Cornford. 1982. *Arctic Data Compilation and Appraisal. Beaufort Sea: Chemical Oceanography.* Cdn Data Report Hydrog. Ocean Sciences. No. 5, Vol. 2.

Birch, J.R., D.B. Fissel, D.D. Lemon, A.B. Cornford, R.A. Lake, B.D. Smiley, R.W. Macdonald and R.H. Herlinveaux. 1983. *Arctic Data Compilation and Appraisal. Northwest Passage: Physical Oceanography - Temperature, Salinity Currents and Water Levels.* Cdn. Data Report Hydrog. Ocean Sciences. No. 5, Vol. 3.

Thomas, D.J., R.W. Macdonald, A.G. Francis, V. Wood and A.B. Cornford. 1983. *Arctic Data Compilaton and Appraisal. Northwest Passage: Chemical Oceanography.* Cdn Data Report Hydrog. Ocean Sciences. No. 5, Vol. 4.

INSTITUTE OF OCEAN SCIENCES (I.O.S.)
OCEAN INFORMATION DIVISION
Department of Fisheries and Oceans

PUBLICATIONS (cont'd)

Birch, J.R., D.B. Fissel, D.D. Lemon, A.B. Cornford, R.H. Herlinveaux, R.A. Lake and B.D. Smiley. 1983. *Arctic Data Compilation and Appraisal. Baffin Bay: Physical Oceanography - Temperature, Salinity, Currents and Water Levels.* Cdn Data Report Hydrog. Ocean Sciences. No. 5, Vol. 5.

Fissel, D.B., L. Cuypers, D.D. Lemon, J.R. Birch, A.B. Cornford, R.A. Lake, B.D. Smiley, R.W. Macdonald and R.H. Herlinveaux. 1983. *Arctic Data Compilation and Appraisal. Queen Elizabeth Islands: Physical Oceanography - Temperature, Salinity, Currents and Water Levels.* Cdn Data Report Hydrog. Ocean Sciences. No. 5, Vol. 6.

LAKEHEAD HARBOUR COMMISSION
(PORT AUTHORITY)
PORT OF THUNDER BAY

P.O. Box 2266,
Postal Station P,
Thunder Bay, Ontario P7B 5E8
(807) 344-3594 - Telex: 073-4347

Cook, P.R. - Port Manager

OBJECTIVES/FUNCTIONS

The Lakehead Harbour Commission was established in 1959 by the federal government and given a high degree of autonomy under the Harbour Commissions Act to manage and operate the Port of Thunder Bay. The Commission's policy covers four basic areas:

- the management of commercial navigation within the harbour
- to ensure that recreational boating and conservation needs are compatible with commercial activity while reflecting the public need
- the control of land use and facilities (not owned by the Commission) and the development within harbour limits
- the management of Commission property ensuring viability through the use of proven business methods.

INFORMATION SOURCES AND SERVICES

Files held include port cargo statistics, vessel movements, opening and closing dates.

Outside researchers demonstrating a "need to know" will be granted access to records at no charge.

PUBLICATIONS

TransPORT of Thunder Bay - quarterly.

Pamphlets.

Annual Report.

MANITOBA. DEPARTMENT OF HIGHWAYS AND TRANSPORTATION
TRANSPORTATION POLICY, PROGRAMS AND RESEARCH DIVISION

15th Floor, 215 Garry Street
Winnipeg, Manitoba R3C 0V8
(204) 945-2096 - Telex: 07-57346

Schaeffer, Dennis
Manager of Transportation Policy

OBJECTIVES/FUNCTIONS

To develop transportation policy for the Manitoba government, to conduct research and provide transportation expertise to Manitoba users and carriers.

ACTIVITIES

Policy advising.

Execution of research projects.

INFORMATION SOURCES AND SERVICES

Port Churchill file - statistics on ship movements from the late 1960's to the present. Material collected from the port commission and the Port Churchill Development Board. Updated annually.

St.Lawrence Seaway file - statistics on ship movement from 1978 to the present. Material collected from the St. Lawrence Seaway Authority, the Canadian Grain Commission, carriers and shipping associations. Updated irregularly.

Ports Administration Policy file - vertical file of correspondence, reports, legislation, proposals relating to port regulation and legislation from Bill C-50 to the present. Continual update.

File material accessible to outside researchers by personal visit or correspondence.

1-031-G

MARINE SCIENCES AND INFORMATION DIRECTORATE

Department of Fisheries and Oceans

12th Floor, 200 Kent Street
Ottawa, Ontario K1H 0E6
(613) 990-0298 - Telex: 05-34228

Dr. Campbell, N.J. - Director General

OBJECTIVES/FUNCTIONS

To provide headquarters' coordination and management for marine scientific activities within Ocean and Aquatic Sciences of the Department of Fisheries and Oceans. To provide liaison support to marine programs of other departments, agencies, industry, etc., within Canada requiring marine scientific expertise. To act as a focal point for international marine science affairs.

ACTIVITIES

Department liaison for The Ocean Dumping Control Act.

Provision of scientific advice.

Provision of ocean environmental data and services.

Provision of wave climatology.

Support for marine environmental control of pollution from shipping.

Provision of tide and current tables.

INFORMATION SOURCES AND SERVICES

Questions relating to data generated by activities should be addressed to:

Dr. J. Wilson, Director
Marine Environmental Data Service (MEDS)
Department of Fisheries and Oceans
12th Floor, 200 Kent Street
Ottawa, Ontario K1A 0E6
(613) 990-0229

Dr. J. Watson, Director
Scientific Information and Publication Branch
12th Floor, 200 Kent Street
Ottawa, Ontario K1A 0E6
(613) 990-0227

PUBLICATIONS

Panel on Ice. Annual Report. This report is prepared annually by the panel on ice for its parent organization, The Canadian Committee on Oceanography. It lists the ice operations and research activities of the 14 panel members who represent government, industry and university agencies active in the sea ice field.

Directory of Marine and Freshwater Scientists in Canada - 1984. See entry: B 119.

ADDITIONAL INFORMATION

Regional Branches:

Institute of Ocean Sciences - see entry: 1-028-G.

Bedford Institute of Oceanography: - see entry: 1-007-G.

1-032-G

QUEBEC DEPARTMENT OF TRANSPORT
MARITIME TRANSPORT DIRECTORATE

Place Haute Ville, 22nd Floor,
700 St. Cyrille Boulevard East,
Quebec City, Quebec G1R 5H1
(418) 643-5361

Girard, Jacques - Director

OBJECTIVES/FUNCTIONS

To promote maritime transportation in Quebec.

ACTIVITIES

The Development Section carries out the required studies to ensure that maritime transportation services meet Quebec's social and economic development needs.

The Operations Section is responsible for the implementation and efficiency of maritime transportation services.

The Maritime Transport Directorate has a budget of some 30 million dollars for the fiscal year 1985-1986 to cover these activities, excluding payroll.

Maritime Transport is one of the four units of the Intermodal Transport Branch, the other three being for rail, air and highway freight traffic.

INFORMATION SOURCES AND SERVICES

Monthly and yearly trip statistics on:

- the Montreal/Magdalen Island service;
- the Middle and Lower North Shore-Anticosti Island service;
- the New Quebec service;
- Chevery/Harrington Harbour/Aylmer Sound.

Daily, monthly and yearly statistics on the various ferries operated by the Société des traversiers du Québec (Quebec Ferries Corporation) and a number of subsidized private ferries, as follows:

Société des traversiers du Québec:

- Ile aux Coudres/St. Joseph de la Rive,
- Ile aux Grues/Montmagny,
- Matane/Baie Comeau/Godbout,
- Quebec City/Levis,
- Sorel/St. Ignace de Loyola,
- Tadoussac/Baie St. Catherine.

Subsidized private ferries:

- Ile d'Entrée/Havre Aubert/Cap aux Meules,
- Lotbinière/Deschambault,
- Rivière du Loup/St. Siméon,
- Notre Dame du Lac/St. Juste du Lac.

These statistics provide information on the number of vehicles of all kinds and the number of passengers using these ferries.

The Quebec Transport Department's Documentation Centre keeps files on all the documentation in its possession, so that those who may need information can apply there for documentation on any particular subject.

Please contact the Documentation Centre, Quebec Department of Transport, Place Haute Ville, 22nd floor, 700 St. Cyrille Boulevard East, Quebec City, Que. G1R 5H1.
(418) 643-3578.

Depending on the type of document required a small fee may be charged.

1-033-G

NATIONAL RESEARCH COUNCIL OF CANADA
CANADA INSTITUTE FOR SCIENTIFIC AND TECHNICAL INFORMATION (CISTI)
Aeronautical/Mechanical Engineering Branch

Building M-2,
Montreal Road,
Ottawa, Ontario, K1A 0R6
Schade, Margaret - Branch Head,
(613) 993-9361
Reference and Circulation (613) 993-2432

OBJECTIVES/FUNCTIONS

The Aeronautical/Mechanical Engineering Branch of the Canada Institute for Scientific and Technical Information (CISTI) provides STI services to NRC's National Aeronautical Establishment and Division of Mechanical Engineering, and the Canadian aeronautical, marine and railway engineering industries. Branch services are supported by CISTI's national collection, information and technical services, and its computerized services.

INFORMATION SOURCES AND SERVICES

Established in the 1940's, the Branch has a comprehensive collection in the fields of aeronautical engineering, automatic control and computation, hydraulic engineering, icing, low temperature research, marine and naval engineering, oceanography, and air, road and marine transportation.

The Branch is noted for its technical report collection based on exchange agreements with national and international research organizations. Of particular interest to the marine transportation community are the report series received from such agencies as the Society of Naval Architects and Marine Engineers, New York; University of Michigan, Department of Naval Architecture and Marine Engineering (DNAME), Ann Arbor, Mich; National Physical Laboratory, Ship Division of Great Britain; the David W. Taylor Naval Ship Research and Development Centre, Bethesda, Md.; National Maritime Institute, Feltham, England; Nederlandsch Scheepsbouwkundig, Proefstation, Wageningen, Netherlands; (Netherlands Ship Model Basin), Sempaku Gijutsu Kenkyujo, (Tokyo Ship Research Institute of Japan); Stevens Institute of Technology, Davidson Laboratory, Hoboken, N.J.; Institute of Marine Engineers, London.

The Branch provides reference, interlibrary loan and photocopy services.

Books are loaned at no charge for two weeks, renewable on request.

Periodicals and some report series are non-circulating, photocopies are available: $2.20 minimum, 1 - 10 pages; 22 cents per page for longer articles.

Microfiche duplicate, $2.20 per report; hard copy reproduction, $2.20 minimum, 1 - 10 pages; 22 cents per page for longer items.

The library is open to the public from 8 a.m. to 4:30 p.m. Monday to Friday.

For further information contact the Branch by telephone, letter or electronic mail, using CAN/OLE (OLS005) or Envoy (CISTI.Aero).

1-034-G

NATIONAL RESEARCH COUNCIL OF CANADA

Hydraulics Laboratory,
Division of Mechanical Engineering

Building M-32,
Montreal Road,
Ottawa, Ontario, K1A 0R6
(613) 993-2417
Telex: 053-3386 NRC ME OTT

Ploeg, J. - Section Head

OBJECTIVES/FUNCTIONS

The Hydraulics Laboratory of the Division of Mechanical Engineering has two main functions: firstly, to conduct research in the field of hydraulics or fluid mechanics and, secondly, to investigate related engineering problems for other Canadian government departments and agencies or private industry. Special emphasis is placed on research into coastal and ocean engineering problems.

ACTIVITIES

The Hydraulics Laboratory specializes in theoretical studies and mathematical and hydraulic medel investigations of estuaries, maritime structures, harbours, offshore structures and mooring devices as well as wave dynamic and ice engineering.

Working space of the laboratory is 8400 m^2 and its facilities include three (3) irregular wave flumes, two (2) wave basins, one (1) beach flume, a calibration tank for calibrating flow meters and one (1) ice tank.

INFORMATION SOURCES AND SERVICES

Inquiries concerning services and advice should be directed to Head, Hydraulics Laboratory, NRC. Ottawa.

PUBLICATIONS

The Hydraulics Laboratory, Facilities and Projects. Irregular. Ottawa. NRC. Division of Mechanical Engineering.

Research and Development Work in the Division of Mechanical Engineering. Annual. Ottawa. NRC. Available without charge from Director,Division of Mechanical Engineering.

NRC. *Hydraulics Laboratory*. Report. Ottawa. LTR-HY-1, May 1965.

1-035a-G

NATIONAL RESEARCH COUNCIL OF CANADA

Institute for Marine Dynamics

Building M-22,
Montreal Road,
Ottawa, Ontario K1A 0R6
(613) 993-2265 - Telex: 053-314
Jeffrey, N.E. - Director

OBJECTIVES/FUNCTIONS

The Institute for Marine Dynamics is a Canadian National Facility established by the Federal Government. Through its marine transportation research and development programs it provides technical assistance and a transfer of technology not only to other Government marine agencies but also to Canada's maritime and offshore industries and to its universities. The Institute is involved in national and international committees, inter-governmental and international programs and professional societies. Its research programs are directed towards performance, habitability and safety of marine vehicles, ocean structures and other hydrodynamic devices, and towards the general advancement of marine transportation and ocean engineering in arctic and open waters.

Existing facilities are situated in Ottawa but major new laboratories have been constructed in St. John's, Newfoundland. (See following entry).

The Ottawa laboratory has a towing tank 137m x 7.6m x 3m and a manoeuvring basin 122m x 61m x 3.7m, both equipped with pneumatic wavemakers and supported by state-of-the-art data acquisition and analysis systems. Full support facilities include workshops for the manufacture of ship and propeller models, electronic instrumentation and computers.

ACTIVITIES

Advice and services are available in the following:

Model testing of ship and propeller designs and hydrodynamic studies of a wide range of marine craft, both commercial and naval:

- resistance, propulsion, manoeuvring and seakeeping
- wake surveys, flow studies.

INFORMATION SOURCES AND SERVICES

IMD holds a specialized working collection of technical and scientific publications issued by other marine organizations.

PUBLICATIONS

Most of the Institute's project reports are proprietary to the contracting agencies, but IMD welcomes enquiries and may provide a list of available reports to interested individuals or organizations. Contact: Ruby Denison (613) 993-2288.

1-035b-G

NATIONAL RESEARCH COUNCIL OF CANADA
Institute for Marine Dynamics

P.O. Box 12093, Postal Station A,
St. John's, Newfoundland A1B 3T5
(709) 772-2326

Jeffrey, N.E. - Director

OBJECTIVES/FUNCTIONS

New laboratories of the Institute for Marine Dynamics have been constructed on the campus of Memorial University, St. John's, Newfoundland. These expanded facilities have been planned with the objective of promoting and assisting in the development of a technological capability in Canada for the design, development and construction of vessels and fixed structures for operation on or below ice-covered waters. The new laboratories, expected to become operational in the autumn of 1985, have the following major facilities:

- Arctic Vessel Research Laboratory, comprising a refrigerated towing tank for simulating sea ice conditions (80m x 12m x 3m) and instrumented cold chambers.
- A large towing tank (200m x 12m x 8m).
- A seakeeping and manoeuvring tank equipped with advanced wavemakers for representing complex seas (75m x 32m x 3m).
- A cavitation tunnel (with working section 2.5m x 0.5m x 0.5m).
- A construction shop for models up to 12m in length, a design office and a computer centre.

ACTIVITIES

The research programs developed in the Ottawa laboratories will be continued and expanded in St.John's with particular emphasis placed on studies of marine transportation in ice-covered waters and offshore engineering. Additional capabilities will be as follows:

Full scale ship trials for the investigation of overall ship propulsion and seakeeping performance in open water and behaviour in ice. Full scale measurement of ice properties and study of arctic ice conditions.

Research into the performance of ships in ice by theoretical and model investigation of resistance, propulsion, manoeuvring and structural loading.

Theoretical and model studies of offshore structures, in realistic representations of the offshore environment of waves and ice, with particular emphasis on their stability and operational safety.

Development of computer-aided design and manufacturing techniques for ship and model building and concept development.

INFORMATION SOURCES AND SERVICES

The Institute will house a branch facility of the Canada Institute for Scientific and Technical Information which will serve both the needs of the Institute and of the local scientific and technical community. Its collection will emphasize material published in the subject areas of naval architecture, marine hydrodynamics and ocean engineering.

Contact: Joy Tillotson (709) 772-2326.

PUBLICATIONS

An annual report will be published by the Institute.

1-036-G

NOVA SCOTIA RESEARCH FOUNDATION CORPORATION (NSRFC)

100 Fenwick Street,
P.O. Box 790,
Dartmouth, Nova Scotia B2Y 3Z7
(902) 424-8670 - Telex: 019-22719

Nickerson, T. - President

OBJECTIVES/FUNCTIONS

To use science and technology to support and stimulate industrial development.

ACTIVITIES

Marine surveys including pipeline routes, harbour dredging projects, a container pier site, subsea platform locations, and outfall surveys were completed in locations from Ontario through the Maritimes to the North Sea. Significant technical improvements were made in the marine profiling equipment to allow sub-bottom surveys to be undertaken in water depths up to one thousand meters, and new equipment designed for detailed studies of the sea floor in very shallow water was successfully demonstrated in Holland.

Services offered by the Foundation include engineering services to industry on matters concerning equipment operating in a marine environment; high resolution, deep towed sub-bottom seismic profiling surveys, in water depths to 3000 feet for production and exploration rig sites, oil and gas pipeline routes, iceberg scours, pockmarks and regional surficial sediment surveys.

INFORMATION SOURCES AND SERVICES

Availability of 11,000 books, periodicals and pamphlets on scientific and technical subjects through inter-library loan for direct borrowing where applicable. Literature searches on technical subjects; both manually and by computer.
Miss. H. Hendry, librarian (902) 424-8670.

OCEAN INDUSTRY DEVELOPMENT OFFICE (OIDO)
DRIE NOVA SCOTIA

5077 George Street,
Halifax, Nova Scotia B3J 1M3
(902) 426-8450 Telex: 019-22790

Capt. Plant, H.W. - Director

ACTIVITIES

The office is involved in ocean related industry development and establishment in Nova Scotia under a special Canada / Nova Scotia Ocean Industry Agreement.

ONTARIO MINISTRY OF TRANSPORTATION AND COMMUNICATIONS

Marine and Pipeline Office

3rd Floor, West Tower,
1201 Wilson Avenue,
Downsview, Ontario M3M 1J8
(416) 248-7131

Kibedi, Andrew - Transportation Officer

OBJECTIVES/FUNCTIONS

Influence and advocacy role for marine mode in Ontario. Identification of marine issues and development of Ontario positions re marine services and needs. Monitoring of activities of all other marine interests, policy and legislation. Development and implementation of public awareness and commercial promotion campaigns to enhance utilization and public's familiarity with system.

ACTIVITIES

Base studies:

Ontario Ports Study:

Joint with Federal Government. Study to determine present status of facilities and future prospects of all Ontario Commercial Great Lakes ports.

Ontario Shipyard Study:

Joint with Federal Government. Study to determine capacity of Ontario drydocks in view of potential demand from all shipyard market segments.

Periodic review of port charges system, carrier industry, information (statistical) availability, comparative rates, tolls impacts, impacts of proposed national or international policy or legislation.

Development of promotional material for public awareness: Film: *Inward Passage*. Travelling showcase. Pamphlets and general information on Great Lakes / St. Lawrence Seaway System. Development of 25th Anniversary logo.

Participation in Committees, Seminars, Symposia, Intra-Inter-provincial and international efforts to promote system.

INFORMATION SOURCES AND SERVICES

Information sources are project oriented, they could be made available in the office on a limited basis, not designed for public distribution.

Ontario Ministry of Transportation and Communications Library and Information Services Mrs. S. Pavlin, Head 1st Floor, Central Building.
Tel: (416) 248-3591.

PUBLICATIONS (since 1980)

The Great Lakes/Seaway: Setting a Course for the 80's (January 1981). A report of the Provincial Great Lakes/Seaway Task Force. R.S. Misener, Chairman. Ontario Government Bookstore.

Woods Gordon. *Potential Markets for Ontario Shipyards* (for MTC and IT&C) May 1984. Available from Consultant.

Peat Marwick and Partners. *Ontario Ports Study, Final Report* (for MTC & TC). (Oct. 1984).

300 - 1199 West Hastings Street
Vancouver, B.C. V6E 4G9
(604) 666-6771 - Telex: 04-53357

Capt. Batchelor, D.W.

PACIFIC PILOTAGE AUTHORITY CANADA

OBJECTIVES/FUNCTIONS

The function of the Pacific Pilotage Authority is to provide an efficient and safe pilotage service to vessels within the Pacific Region.

ACTIVITIES

To establish, operate, maintain and administer in the interests of safety, an efficient pilotage service.

PUBLICATIONS

Published on an irregular basis as required:

Pacific Pilotage Regulations SOR/74-242 - Latest amendment SOR/84-415.

Pacific Pilotage Coastal Tariff REGS. SOR/83-456 - Latest amendment SOR/84-444.

Pacific Pilotage Fraser River Tariff Regulations. SOR/84-455 - Latest amendment SOR/84-457.

Compulsory Pilotage Areas (chart) (copies available on request).

POLAR CONTINENTAL SHELF PROJECT (PCSP)

ENERGY, MINES AND RESOURCES
CANADA

880 Wellington Street,
Ottawa, Ontario, K1A 0E4
(613) 990-6989

Hobson, G.D. - Director

OBJECTIVES/FUNCTIONS

To contribute to the orderly scientific investigation of Canada's polar continental shelf, the contiguous Arctic Ocean and mainland regions and to maintain and improve the logistics required for scientific investigations in an arctic environment.

ACTIVITIES

The branch provides logistic support to other groups or projects including activities related to Canadian marine transportation and other sciences. For example, it provides logistic support to government hydrographic survey parties and such projects as the use of hovercraft- and helicopter-towed transducers. It supports scientists doing oil spill, meteorological, and ice island investigations and other projects as required.

INFORMATION SOURCES AND SERVICES

A limited number of scientific reports have been commissioned by the branch, for example, a report by Dr. Pounder of McGill University on ice physics and oceanography as a result of ice island occupation. For the most part, though, reports in the branch are those received from scientific parties supported and these are also available directly from the scientists. Requests for access to PCSP files and reports should be through the director.

An annual November meeting is held for members of institutes, universities and government to discuss their needs with PCSP staff for the next field season.

PUBLICATIONS

Canadian Arctic Ice Atlases. The first covers 1961-68 and the second 1969-74. These publications present the results of ice reconnaissance flown in the Arctic since 1961, principally in the Queen Elizabeth Islands. Since 1966 the data has been integrated into the Atmospheric Environment Service historical chart series.

Hobson, G.D. and Voyce, J. *Polar Shelf Projects - Titles and Abstracts of Scientific Papers Supported by PCSP*. This is a special series of bibliographies.

Work is progressing on a sixth bibliography with each publication containing approximately 400 entries.

1-041-G

PORT CHURCHILL DEVELOPMENT BOARD

723-167 Lombard Avenue,
Winnipeg, Manitoba R3B 0V3
(204) 942-2444

Guest, Ed H. - Executive Director

OBJECTIVES/FUNCTIONS

To promote the maximum use of Churchill both in domestic and overseas trade, assisting the economic development of the prairies and northern region of Canada.

ACTIVITIES

Promotion of trade through Churchill and promotion of facilities to and at Churchill by means of lectures, preparation of briefs to such bodies as the Canadian Marine Underwriters (to secure insurance rates for extended season), personal sales solicitation of major commodity traders, encouragement of tourism, etc.

Provision of information about the port and adjacent land and waters, in reply to specific enquiries.

INFORMATION SOURCES AND SERVICES

Cargo/shipping statistics in detail from 1973. Less detailed statistics available from 1931 (opening of the elevator at Churchill). Statistics collected from the Port of Churchill and the Canadian Grain Commission.

Provide detailed information concerning port facilities.

A library of studies/research reports relating to the port is being assembled. The collection at present consists of about 30 reports.

Speaking engagements will be honoured on request.

Files available to outside researchers by personal visit. Files held at Winnipeg office.

A slide presentation on Port Churchill and area is available on request.

1-042-G

PUBLIC WORKS CANADA
MARINE DIRECTORATE
(PWC Marine)

Room E519,
Sir Charles Tupper Building,
Ottawa, Ontario K1A 0M2
(613) 998-8171

Pennington, Todd

OBJECTIVES/FUNCTIONS

To provide and maintain at the most economical cost marine facilities as required by federal programs for the development and support of industry and for water level control.

To plan and develop navigation channels and harbour facilities.

To assist in the control of navigable inland waters and to facilitate their use.

To give advice in the provision of marine facilities.

ACTIVITIES

Industry support - the design, construction, improvement and maintenance of marine structures; the planning and establishment of channels, wharves and harbours to facilitate the transportation of passengers and bulk and general cargo.

Water level control - the maintenance and operation of various locks, dams and reservoirs across the country and special studies to develop engineering criteria in the field of water level control.

INFORMATION SOURCES AND SERVICES

Many files date from before Confederation to the present and concern marine works and facilities, many in the form of correspondence and technical memoranda on functions listed in "Activities". Statistics held are project related and not available as stand-alone items. Files may be inspected by outside researchers making a personal visit.

The departmental librarian is Raymond Gagnon (613) 998-8350.

PUBLICATIONS

Reports on projects are produced plus some manuals related to marine planning, design and construction. Available free in small numbers (one or two).

1-043-G

REGIONAL INDUSTRIAL EXPANSION (DRIE)
MARINE SYSTEMS DIVISION

6th Floor, 235 Queen St.
Ottawa, Ontario K1A 0H5
(613) 992-0608 - Telex: 053-4123
Bull, Fruji - Manager

OBJECTIVES/FUNCTIONS

Program and policy development, sector intelligence and corporate relations designed to promote the establishment, improvement, efficiency, market development and general economic health of the marine industries (including the shipbuilding, ship repair and marine component industries).

ACTIVITIES

Administration of the **Shipbuilding Industry Assistance Program** to assist Canadian yards upgrade their facilities.

Administration of particular sections of the **Income Tax Act and Regulations** dealing with shipbuilding.

Collection of background information on the Canadian marine industry.

Assisting DRIE regional offices to administer IRDP by providing evaluation of and advice on projects.

Participates in marine related activities under the **Program for Export Market Development.**

INFORMATION SOURCES AND SERVICES

Information files are for internal use.

DRIE Departmental Library
Nicole Menard, Reference. (613) 992-4947.
Open to public.

PUBLICATIONS

Canada's Shipbuilding Industry, Performance Prospects and Policy Options (1983 - no charge - available from Business Centre of the Department of Regional Industrial Expansion).

Canadian Ocean Industries Directory (1981 - no charge - available from Business Centre of DRIE).

The Canadian Recreational Boatbuilding Industry Directory (July 1980 - no longer available, new version anticipated in 1985 - available from Business Centre of DRIE - no charge).

ADDITIONAL INFORMATION

Regional offices are located in all provinces.

REGIONAL INDUSTRIAL EXPANSION (DRIE)
TRANSPORTATION SERVICES DIVISION
SERVICE INDUSTRIES BRANCH (ISEI)

235 Queen Street,
Ottawa, Ontario K1A 0H5
(613) 995-8107 - Telex: 053-4123

Bradford, Meriel - Director

OBJECTIVES/FUNCTIONS

To make recommendations and provide a user perspective in the development of government and industry transportation policies.

To aid carrier users and related service industries in their endeavours to ensure that adequate transportation facilities and services are available at competitive market rates.

ACTIVITIES

Maintain contact and a close business relationship with carrier users, related service industries, the carriers and their agents.

Research and problem solving, information collection and dissemination for water carrier users and the government.

Provide assistance in economical routings, methods of shipment and rate negotiations.

Research and analysis of transportation issues and programs.

Monitors transportation rates and services, technological developments which affect domestic and international trade and economic conditions in transportation service industries.

INFORMATION SOURCES AND SERVICES

Establishing micro-data base on the Maritime Transportation Industry covering financial status, employment, locations, names of officers, ownership characteristics, details of Canadian-foreign operations and other corporate information. It will not be accessible to unauthorized people.

Departmental Library - see entry : 1-043-G.

PUBLICATIONS

Directory of Ocean Shipping Services - complete revision May 1980. Updated by amendment and addendum pages at regular intervals. Reprinted 1984. Available free from the Branch.

Directory of Freight Forwarders and Custom Brokers - printed in 1977. Revised Directory scheduled for early 1986 - available free from the Branch.

Directory of Canadian Trading Houses. Revised Directory published October 1984 - available free from the Branch. Will be on-line through the regional offices.

1-045-G

THE ST. LAWRENCE SEAWAY AUTHORITY

Tower "A", Place de Ville,
Ottawa, Ontario K1R 5A3
(613) 598-4600 - Telex: 053-3322
Hemsley, Gaétane - Information Officer

OBJECTIVES/FUNCTIONS

A Crown corporation established to construct, operate and maintain a deep waterway between the Port of Montreal and Lake Erie together with such works and other property including bridges incidental to the deep waterway as deemed necessary by the Governor in Council.

INFORMATION SOURCES AND SERVICES

Traffic statistics of commodity cargo by origin and destination, traffic statistics by country or registry. Forecasting studies of anticipated commodity traffic.

Files are accessible to outside researchers by previous arrangement.

PUBLICATIONS

Annual Report.

St. Lawrence Seaway Traffic Report. Annual.

Seaway Handbook. Seaway regulations, information for vessel transit and general plans for the use of commercial vessel operators.

The Welland Section of the St. Lawrence Seaway. Fact sheet.

The Montreal-Lake Ontario Section of the Seaway. Fact sheet.

ADDITIONAL INFORMATION

Regional offices:

202 Pitt Street
Cornwall, Ontario K6J 3P7
(613) 932-5170

508 Glendale
St. Catharines, Ontario L2R 6V8
(416) 684-6571

P.O. Box 97
Administration Bldg., St. Lambert Lock
St. Lambert, Quebec J4P 3N7
(514) 672-4110

1-046-G

Main Building
Room 2501
Tunney's Pasture
Ottawa, Ontario K1A 0T6
(613) 990-8696
Telex: 053-3585 / STAT CAN OTT

STATISTICS CANADA
Transportation and Communications Division
Marine Transport Unit

Reinhard, W.

OBJECTIVES/FUNCTIONS

To measure the volume of domestic and international cargoes handled at Canadian ports by ports of loading and unloading and by commodity.

To obtain detailed statistics on vessel traffic and vessel particulars at Canadian ports.

To provide establishment oriented industry statistics such as ownership, employment, operating revenues and expenses, property value and vessel ownership for Canadian domiciled water carriers.

To measure the size, structure and importance of the Canadian water carrier industry.

ACTIVITIES

Collection of statistical data by three surveys or projects:

S.1. **Domestic Shipping Report** - obtains origin and destination commodity statistics and vessel statistics for vessel traffic at Canadian ports.

AB General Declaration and Cargo Reports - obtains origin and destination commodity statistics and vessel statistics for vessel traffic at Canadian ports in international shipping.

Water Transport Financial - obtains operating and financial data for firms comprising the Canadian water transportation industry. Commencing with 1978 data, firms with a gross revenue under 100,000$ were excluded.

INFORMATION SOURCES AND SERVICES

S.1 Domestic Shipping Report - data collected include vessel particulars such as: name of vessel, country of registry, net and gross register tonnage, arrival and departure date and cargo particulars such as commodity description, tonnage and port where cargoes were loaded or unloaded. These reports cover movement of vessels of 15 net registered tons and over (cargo vessels) and tugs or other vessels of 15 gross registered tons and over. Shipping data are compiled for all of Canada with the exception of carriers operating on the Mackenzie River system and smaller inland lakes. The data are captured onto computer tape. The records per year on tape number approximately 100,000.

General Declaration and Cargo Reports - principal data collected include vessel particulars such as: name of vessel, country of registry, net and gross register tonnage, Canadian landing port, arrival and departure date, port arrived from/departed for, and cargo particulars such as tonnage loaded/unloaded by commodity, and foreign port of loading or unloading. Shipping data are compiled for all Canadian ports. The data are captured onto computer tape. There are approximately 700,000 - 900,000 records per year.

Water Transport Financial - principal data include: type of ownership, employees, revenue, fuel and lubricating oil consumed, property, expenditures and operating statistics. Data cover all Canadian geographic regions. They are captured on computer tape. The records per year number approximately 500.

These files are not normally available to outside researchers since they contain confidential data. Access to actual reports or computer outputs under the jurisdiction of Statistics Canada can be authorized by the Chief Statistician of Canada upon the recommendation of the Division of Transportation and Communications.

Statistics Canada Library. Mrs. G. Ellis, Chief Librarian. (613) 992-0673.

STATISTICS CANADA
Transportation and Communications Division
Marine Transport Unit

Courses/Programs

User Advisory Services, Statistics Canada holds seminars periodically. User groups are approached by Statistics Canada for these informative sessions.

PUBLICATIONS

1) *International Seaborne Shipping Statistics* Quarterly Catalogue No. 54-004.

Presents preliminary statistics on the type of cargo carried by marine transport in international shipping in Canadian coastal waters, the Great Lakes and the St. Lawrence Seaway. Also includes detailed commodity origin-destination date.

2) *International Seaborne Shipping Commodity Statistics*. Catalogue No. 54-209.

Tabulations are presented on the cargo tonnes handled at Canadian ports by:

- selected commodity, handling port and origin or destination
- selected commodity and origin or destination
- commodity (in standard commodity classification code order)
- commodity (ranked in terms of cargo tonnes handled)
- commodity and Canadian region.

Also presented are cargo tonnes handled and the number, gross and net register tonnage of vessels which arrived at and departed from Canadian ports, by nationality of ship and Canadian region.

The report gives cargo tonnes handled and the number of vessel movements at each Canadian port, by kind and gross register tonnage of vessel.

3) *International Seaborne Shipping Port Statistics Catalogue*. No. 54-211.

Tabulations are presented on the cargo tonnes handled at Canadian ports by:

- handling port and commodity
- selected handling port and origin or destination
- handling port (by geographic area)
- handling port (ranked in terms of cargo tonnes handled).

Also presented are cargo tonnes handled and the number, gross and net register tonnage of vessels which arrived at and departed from Canadian ports by port and type of movement.

Cargo tonnes of containerized freight handled at selected Canadian ports and the number and size of containers handled are presented.

4) *Water Transport: Service Bulletin*, Catalogue No. 54-003.

This is an early release of summary data on shipping activity, including port activity, major commodities loaded and unloaded and container movements.

5) *Water Transportation*: Annual, Catalogue No.54-205.

The annual report *Water Transportation* presents principal statistics on private, government and for-hire water carriers. Included are the number and kind of vessels, employment, financial statistics, operating statistics and type of service.

STATISTICS CANADA

Transportation and Communications Division

Marine Transport Unit

PUBLICATIONS (cont'd)

6) *Coastwise Shipping Statistics*: Quarterly, Catalogue No. 54-005.

   This is a preliminary report for the annual publication Coastwise Shipping Statistics, Catalogue No. 54-210.

7) *Coastwise Shipping Statistics*: Annual, Catalogue No. 54-210.

   The annual report Coastwise Shipping Statistics presents statistics on the carriage of goods by ship in Canadian coastal waters, the Great Lakes and the St. Lawrence Seaway. Included are commodities loaded and unloaded and the vessel activity by port.

Additional tabulations are available upon request. Fees are charged on a revolving fund basis for machine costs for data requiring computer extraction and other related expenses or if the request requires the dedication of unbudgeted resources.

Publication distribution: Statistics Canada.

ADDITIONAL INFORMATION

Regional offices:

St.John's	(772-4073)
Halifax	(426-5331)
Montréal	(283-5725)
Ottawa	(992-4734)
Toronto	(966-6586)
Sturgeon Falls	(753-4888)
Winnipeg	(949-4020)
Regina	(359-5405)
Edmonton	(420-3027)
Vancouver	(666-3691)

Toll free access is provided in all provinces and territories, for users who reside outside the local-dialing area of the regional reference centers.

Newfoundland and Labrador:	Zenith 0-7037
Nova Scotia, New Brunswick, and Prince Edward Island	1-800-565-7192
Quebec	1-800-361-2831
Ontario	1-800-268-1151
Manitoba	1-800-282-8006
Saskatchewan	1(112)800-667-3524
Alberta	1-800-222-6400
British Columbia (South and Central)	112-800-663-1551
Yukon and Northern B.C. (area served by Northwestel Inc.)	Zenith 0-8913
Northwest Territories (area served by Northwestel Inc.)	Zenith 2-2015

1-047-G

SUPPLY AND SERVICES CANADA (SSC)

Programs and Systems Support Group, Science Programs Branch

Place du Portage,
Phase III-10C1,
Ottawa, Ontario, K1A 0S5
(613) 993-2417
(819) 997-7676 - Telex: 053-3703

Kelly, Don - Manager

OBJECTIVES/FUNCTIONS

The current policy of the Federal Government of Canada is to contract out to the private sector research and development requirements associated with science and technology.

The Science Branch within SSC is responsible for the procurement of these R & D needs and in carrying out this function issues requests for proposal to qualified vendors and awards contracts to successful proposers.

The Science Programs Branch assists the Science Branch by administering a related **Unsolicited Proposals Program** and a **Public Awareness Program**. In addition, the Programs and Systems Support Group of the Branch maintains a **Science Procurement Information Network (SPIN)** which includes a sourcing capability.

ACTIVITIES

It is estimated that the Science Branch accounts for approximately half of the science and technology R & D contracts awarded annually by the federal government. On receipt of requisitions from other departments, the Science Procurement Officer (SPO) peruses the individual requirement and establishes by means of keywords the precise types of expertise required to perform the work effectively. The SPO then accesses the SPIN system database via a computer terminal, and retrieves the names of vendors whose supply capabilities match the keywords selected.

INFORMATION SOURCES AND SERVICES

There are about 6,500 active vendors presently registered in SPIN. For the majority of these establishments a hard copy file is maintained which contains items such as completed applications for source listing, personnel résumés, summaries of previous contracts and company literature. Vendors bear the responsibility of keeping the Department up-to-date regarding changes in their supply capabilities.

Perhaps 110 of these establishments might furnish services that fall into the marine transportation field.

PUBLICATIONS

Research and Development Bulletin

This publication is sent to approx. 11,000 individual establishments located across Canada and abroad. The *Bulletin*, produced monthly, incorporates pertinent data about contracts issued by the Science Branch and SSC Regional Offices. Feature sections include an *Update* story on new technologies, details of forthcoming requests for proposal, special announcements and *Forum* articles. In addition, a statistical summary covering contracts awarded that month, the cumulative value of contracts awarded year-to-date, and the value of contracts awarded during the same period in the previous year are provided.

In quarterly issues, statistics covering contracts awarded as a result of the **Unsolicited Proposal Program**, reports on other science and technology procurements not covered under the contracting out policy, and contracts issued by other departments in the area of science are included.

Preparation of Unsolicited Proposals for Scientific and Technological Work, June 1980.

The publication provides to the private sector quidance on how to submit to the federal government sound and unique unsolicited proposals for R & D work that supports the government's science and technology missions. In order to be accepted,

SUPPLY AND SERVICES CANADA (SSC)

Programs and Systems Support Group, Science Programs Branch

PUBLICATIONS (cont'd)

an unsolicited proposal must meet certain criteria regarding sponsorship, scientific merit, technical feasibility and uniqueness.

Public Awareness Program for Science and Technology

The announcement for this new program appeared both in the March 1984 and September 1984 *Research and Development Bulletin*. A copy can be obtained from the Editor. The objectives of the program are (a) to increase general public awareness of scientific and technological achievements and potential, particularly those of Canadian origin or application; (b) to stimulate greater public interest in, and understanding of, the role and impact of science and technology in contemporary society; and (c) to improve communications between scientists and non-scientists, between the creator and users of technology, and between those who generate technological change and those who are affected by it.

TORONTO HARBOUR COMMISSIONERS (THC)

60 Harbour Street,
Toronto, Ontario M5J 1B7
(416) 863-2036
Telex: 06-21966 Cable "Torport"
Jursa, John - Director, Public Affairs

OBJECTIVES/FUNCTIONS

The commission operates through the following departments: Finance, Harbour Master, Trade Development, Public Affairs, Planning, Legal, Airport, Property, World Trade Centre, Personnel and Security.

The Harbour Commissioners maintain representation on the Port Industry Task Force, Central Waterfront Planning Committee and Southeast Area Industrial Development Committee. The planning and engineering division has been involved in design and construction of shore protection and coastal engineering projects, construction of ro-ro berths, rebuilding of dock walls, maintenance of dredging facilities, and so on.

In addition, staff members are available, from time-to-time, to work as consultants for other port authorities. THC employees also serve on committees of the International Association of Great Lakes Ports, the Canadian Port and Harbour Association and the American Association of Port Authorities.

INFORMATION SOURCES AND SERVICES

The library is a collection of the records and archives of the Commission. It contains some reports from various committees on which the staff are represented, e.g. Port Industry Task Force, Central Waterfront Planning Committee Southeast Area Industrial Development Committee. It also holds a list of reports issued and selected technical reports prepared by the Engineering Department. Statistics come in year-end reports submitted by the following divisions: Harbour Master, Terminal Operations - Traffic Division, Property Administration, Port and Harbour Policy, Airport, Planning and Engineering and Public Affairs. These reports are held in the collection.

The material is arranged according to commission administrative arrangement.

Outside users are requested to make an appointment through Public Affairs.

PUBLICATIONS

Port of Toronto News. Six times per year.
Trade Connections. Ten times per year.
Port and Harbour of Toronto Condition Plan.
Annual Report.
Trade Brochures.

Reports :

Dredging and Endikement Project. May, 1979.
Port Industrial Development Task Force. October, 1980.
Completion of the Headland and Endikement. December, 1982.
Outer Harbour Marine Proposal. May, 1984.
World Trade Centre Project. July, 1984.
History of the Toronto Waterfront. December, 1984.

Community Brochures :

Toronto Harbour -- A Sail Through History. May, 1984.
Toronto Harbour - A Walk By The Water. August, 1984.

Audio/Visual presentations :

Toronto Harbour Commission -- A Commitment To The Community (17 min.)
Port of Toronto -- Moving Goods: Saving Time (7 min.)

1-049-G

TRANSPORT CANADA
ASSISTANT DEPUTY MINISTER
PLANNING AND COORDINATION
Director General
Research and Development

21A Tower G, Place de Ville,
Ottawa, Ontario K1A ON5
(613) 995-0141 - Telex: 05-33130

Lewis, R.T. - RDP Chief

OBJECTIVES/FUNCTIONS
To plan and program Transport Canada's research and development program.

To provide support for the modal advisory boards and the Inter-departmental Panel on Transportation Research and Development and the Program Committee on Transportation Research and Development.

INFORMATION SOURCES AND SERVICES
Inventory of Ongoing Transportation R & D Projects - a statistical and bibliographic data base covering all modes, begun in late 1977. Federal agency information updated December 1983. Data base consists of about 1500 records gathered from federal and provincial governments, universities and private industry. (Hopwood file)

The file is available to outside researchers by personal visit or contact with project officer.

PUBLICATIONS
A Profile of R & D in Transport Canada. Conway, R. July 1984. TP 5472E.

International Cooperation in Transportation Technology (OECD countries): synthesis report. Brunet, Reina. June 1984. TP 5492E.

Transportation Research and Development, Situation Report. December 1983. TP 4964E.

Status Report: A Review of Science Policies and Policy Instruments Within the Federal Government. Brunet, Reina. June 1983. TP 4737E.

Towards a Research and Development Policy For Transport Canada. Vol. I and II. *Research and Development*. June 3, 1982. TP 3697E.

Transportation Laboratories and Testing Facilities in Canada. 1980 by RTAC. May 25, 1982. Report.

Arctic Marine Services Policy. January 29, 1981. Report.

Transport Research and Development Information Network System Phase I. Requirements Definitions. Taylor Partners,December 31, 1981. Report.

1-050-G

2nd Floor, Tower "C"
Place de Ville,
Ottawa, Ontario K1A 0N5
(613) 998-5128

Heyck, H. (613) 998-5135
Pareanen, R. (613) 998-5134

TRANSPORT CANADA
LIBRARY AND INFORMATION CENTRE

OBJECTIVES/FUNCTIONS

The function of the Library is to provide work-related information to Transport Canada employees. All the services a fully functioning library should provide are available. In addition, the Library provides an information referral and reference service to give the general public, industry, members of parliament and other government employees access to Transport Canada documents and to assist them with transporation related questions.

ACTIVITIES

The Library maintains a resource collection on transportation and related subject areas of over 100,000 books and documents. It subscribes to more than 1,500 periodicals.

There is also a collection of over 500,000 microfiche including all the transportation-related reports sponsored by the U.S. government and published by the National Technical Information Services (NTIS) from 1965, the Society of Automotive Engineers (SAE) technical papers from 1967, and recent Canadian provincial and municipal documents relating to transportation.

Services available include reference, information referral, automated literature searches, automated current awareness profiles, etc.

INFORMATION SOURCES AND SERVICES

The collection includes 2000-3000 reference tools, and more than 30 sets of standards in microfilm or paper copy.

The National Harbours Board collection was disbanded in spring 1979. A portion of it has been incorporated into the general library files.

Canadian Transportation Documentation System - (see also: B 006). The majority of the library collection is accessible through a microfiche catalogue, as well as an online service through the Canadian On-Line Enquiry Service operated by the National Research Council (available as of January 1979). The file contains Canadian government, university and association publications and selected American and foreign documents concerning transportation. It also includes all commercially published monographs received in the Transport Canada Library after May 31, 1978. The fiche are updated each month and cumulated every two months ($2.50 for each single fiche). The online file is updated monthly and can be accessed through CAN/OLE using the command "Enquire 00T". Online charges are $40/hour for libraries who are contributing to the file and $45/hour for all others. The library will do searches on the files for libraries without terminals for a fee of $10/search. The CAN/DOC facility, whereby documents can be requested from the file online was added in February 1979. Transport Canada documents which are not held in multiple copies can be photocopied for the requester at a charge of 20/page.

Outside researchers may use library materials but borrowing must be done by inter-library loan. If only one copy of an item is held, photocopies at 20/page will be provided in lieu of borrowing.

The library is open 8:30-4:30, Monday through Friday.

PUBLICATIONS

Accession List. Bimonthly (TP 305).
Transport Canada Publications. (1979-) (TP 1504)
Making Information Accessible (TP 3995)
Computer Based Reference Services (1984)
(TP 2732).

TRANSPORT CANADA
LIBRARY AND INFORMATION CENTRE

ADDITIONAL INFORMATION

Canadian Coast Guard regional libraries are located in Vancouver, Toronto, Quebec, Dartmouth and St. John's. The library is affiliated with Transport Canada Training Institute Library (Cornwall, Ont.), Coast Guard College Library (Sydney, N.S.), Transportation Development Centre Library (Montreal).

1-051-G

TRANSPORT CANADA
CANADIAN MARINE TRANSPORTATION ADMINISTRATION
Marine Planning Programming and Finance

21st Floor, Tower "A",
Place de Ville,
Ottawa, Ontario K1A 0N7
(613) 995-7324 - Telex: 05-33128

Gagnon, André P. - Director

OBJECTIVES/FUNCTIONS

The Deputy Administrator develops shipping and marine policies and strategies, administers the corporate planning system and programming functions, ensures that an operations review and evaluation capability exists, develops and implements plans for civil or war emergencies, develops and implements policy on issues such as cost recovery or arctic marine services and promotes marine activities relating to R & D and energy.

ACTIVITIES

Major activities include:

Development, implementation and assessment of domestic and international shipping policies.

Development, implementation and assessment of marine services policy.

Forecasting national and international marine activity, and analyzing technological and socio-economic trends, existing and proposed national transportation policies in shipping traffic patterns, evaluating their impact on marine transportation systems.

Liaison with the total marine transportation industry to ensure provision of appropriate services, and gain acceptance of policies.

Overseeing the Canadian Marine Transportation Administration resource generation and allocation process including the programming and financial activities of the Administration.

Ensuring the appropriateness of the Arctic Marine 5-year R & D and energy programs, and the existence of relevant technology exchange agreements with other countries.

INFORMATION SOURCES AND SERVICES

Statistical information and international marine freight movements in and out of Canadian ports are available up to and including 1983 in computer printout format. These are provided by Statistics Canada with which the department has a funding arrangement.

Outside researchers can have access to the international marine freight movement data through a personal visit. Specialized requests requiring a specific computer run by Statistics Canada will involve a fee.

Transport Canada Library and Information Centre
S.G. Campion, Chief
(613) 998-5128
see entry 1-050-G

Conferences/Meetings

Marine Planning Conference. Annual.
Restricted to senior managers and planners of the Canadian Marine Transportation Administration, including marine crown corporations and of Transport Canada. Copies of selected papers presented may be obtained on request.

National Marine Conference. Irregular. Last held 1981.
Joint industry government conference on marine issues. Restricted to marine associations and government representatives. Proceedings available for loan at Transport Canada Library.

PUBLICATIONS

Arctic Marine Transportation R & D Program, Annual Report (copies available at no cost).

Marine Transportation Program, contained in Chapter 3 of the *Transport Canada Estimates, Part III, Expenditure Plan*, Annual document (copies available through DSS at $12.00)..

TRANSPORT CANADA
CANADIAN MARINE TRANSPORTATION ADMINISTRATION
Marine Planning Programming and Finance

PUBLICATIONS (cont'd)

The Canadian Lakes Fleet in the '80's, Hall, Norman T. & Associates, December 1981 (copies available at no cost).

Canadian Perspectives on the UNCTAD Code of Conduct for Liner Conferences: Proceedings, May 12-13, 1982 (copies available at no cost).

New Coasting Trade Policy, A Background Paper, September 1, 1982 (copies available at no cost).

Liner Conferences: *International Aspects*, Sletmo, G.K. September 30, 1982. TP3891 (copies available at no cost).

Liner Conferences, Issues with Special Reference to Freight Rates, T.D. Heaver. October 1982. TP3904 (copies available at no cost).

Liner Conferences in Canada Under Canadian Law and the U.N. Code of Conduct for Liner Conferences, Tetley, W. October 1982. TP3892 (copies no longer available).

Review of the Shipping Conferences Exemption Act, 1979, Discussion Paper, February 1984. TP4553 (copies not available).

1-052-G

TRANSPORT CANADA
CANADIAN MARINE TRANSPORTATION ADMINISTRATION
Marine Pilotage

Tower "A", 21st Floor,
Place de Ville,
Ottawa, Ontario K1A 0N7
(613) 996-1301
Telex: 053-3130/MOT OOT

Brooks, J.J. - Chief

OBJECTIVES/FUNCTIONS
An Act Respecting Pilotage. February 1972. Section 12:

"The objects of an authority are to establish, operate, maintain and administer in the interests of safety an efficient pilotage service within the region set out in respect of the Authority in the schedule."

ACTIVITIES
The headquarters office performs a liaison function by advising the Minister of Transport and the Administration (CMTA) on pilotage matters. It maintains direct contact with other countries's official units such as the U.S. Coast Guard, officially posts information in the Canadian Gazette, provides general marine expertise (e.g. is listed in CISTI's Knowledge Source Index), and maintains an on-going relationship with the CTC, Department of External Affairs and the Canadian Coast Guard. It should be pointed out that each regional authority has the specific responsibility for tariff rates and billing and provides results in its annual report.

INFORMATION SOURCES AND SERVICES
Files are not open to outside researchers. However, answers to specific questions would be provided.

PUBLICATIONS
The General Pilotage Regulations. SOR/73/82. Amended as required.

Regional authorities produce annual reports.

ADDITIONAL INFORMATION
Regional authorities:

Atlantic Pilotage Authority (see entry: 1-002-G)

The Laurentian Pilotage Authority
No. 1402 - 1080 Beaver Hall Hill
Montreal, Quebec H2Z 1S8
(514) 283-6320
Telex: 05-24664

Great Lakes Pilotage Authority Ltd.
(see entry: 1-026-G)

Pacific Pilotage Authority (see entry: 1-039-G)
No. 605 - 1200 West Pender
Vancouver, British Columbia V6E 2T9
(604) 544-6771

TRANSPORT CANADA
CANADIAN MARINE TRANSPORTATION ADMINISTRATION
Shipping Policy Development

Tower A,
Place de Ville,
Ottawa, Ontario K1A 0N7
(613) 995-7353 - Telex: 053-3128

Manery, Grant - Acting Chief

OBJECTIVES/FUNCTIONS

The development, recommendation and implementation of shipping policies taking into account their economic impact. These policies relate to both domestic and international shipping.

ACTIVITIES

Development of the New Coasting Trade Legislation.

Review of Deep-Sea policy.

Review of Great Lakes fleet requirement.

Development of Arctic Shipping Policy.

Development of Canadian position for international meeting on vessel registration and maritime insurance and liability.

Monitor and analyze maritime legislative developments in other countries.

INFORMATION SOURCES AND SERVICES

Files are generally confidential; however, selected material can be provided upon request to the Branch. There is no fee associated with the provision of this information.

Transport Canada Library and Information Centre
Tower "C",
Place de Ville,
Ottawa, Ontario
K1A 0N7

General Enquiries - (613) 998-5128.

Conferences/Meetings

Conferences organized on an ad hoc basis.

The Shipping Policy Branch does not offer a regular course, or conference. From time to time, however, a conference is organized by the Branch (frequently in cooperation with another organization or branch of government) to deal with a specific issue. Attendance at such conferences is open to the public.

Shipping Policy Branch officials do present lectures at universities on an ad hoc basis when requested. Attendance at these lectures is organized by the university.

PUBLICATIONS

Transport Canada, Canadian Marine Transportation Administration IBI Group. *Economic Benefits of a Canadian Merchant Marine*. February 1980, 48 pages.

Canadian Marine Transportation Administration, Transport Canada and CTC Research Branch. *Canadian Perspectives on the UNCTAD Code of Conduct for Liner Conferences: Proceedings*. May 12-13, 1984, 192 pages.

Transport Canada. *Measures to Encourage the Gradual Development of a Canadian Deep-Sea Fleet- Industry Submissions*. February 22, 1980, 60 pages.

Transport Canada. *Liner Conferences in Canada under Canadian Law and the U.N. Code of Conduct for Liner Conferences*, Professor William Tetley, Q.C. McGill University, August 31, 1982. TP 3892.

Transport Canada. *Liner Conferences, International Aspects*, Professor Gunnar K. Sletmo, Ecole des Hautes Etudes Commerciales, September 30, 1982, 141 pages. TP 3891.

TRANSPORT CANADA
CANADIAN MARINE TRANSPORTATION ADMINISTRATION
Shipping Policy Development

PUBLICATIONS (cont'd)

Transport Canada. *Liner Conferences, International Requirements*, S.R. Hill, Econolynx International Ltd., October 1982, 69 pages.

Transport Canada. *Liner Conferences, Issues with Special Reference to Freight Rates*, Professor Trevor D. Heaver, Faculty of Commerce, University of British Columbia, October 1982, 186 pages.

Transport Canada. *Review of the Shipping Conferences Exemption Act*, 1979, Discussion Paper, February 1984, 48 pages.

Cost: Nil.

Availability: Upon request from the:
Shipping' Policy Branch
Transport Canada
21st Floor, Tower A
Ottawa, Ontario
K1A 0N7

1-054-G

TRANSPORTATION DEVELOPMENT CENTRE (TDC)
TRANSPORT CANADA

Guy Favreau Complex
200 Dorchester Blvd. West
Suite 601, West Tower
Montreal, Quebec H2Z 1X4
(514) 283-0000
Telex: MOT CDT 05-24713

Bertrand, R.
Senior Development Officer

OBJECTIVES/FUNCTIONS

Transport Canada Transportation Development Centre (TDC) was formed to identify, promote and manage the application of science and technology towards developing a safer, more effective and efficient Canadian transportation system.

The centre conducts and manages research and development projects in support of Transport Canada's operational, regulatory, policy planning, and evaluation functions. It also undertakes exploratory research and development activities addressing requirements in transportation technology and systems that are high risk, long-range, and national in scope.

ACTIVITIES (marine related)

TDC marine transportation program reflects the application of science and technology across Canada's extreme climatic conditions from the high Arctic to the more temperate inland waters.

Marine transportation in the Canadian Arctic is, by far, our greatest challenge, and as such, represents a major part of TDC R & D activities. Considerable work has been commissioned over the recent years on all aspects of arctic ice transiting vessel performance. One major component of this work has been the **M.V. Arctic Scientific Program** initiated as a result of the Canadian Government participation in a joint venture with a group of Canadian shipowners. The program addressed all aspects of performance from structural through manoeuvering, propulsive, level ice and ridge ramming. Considerable full scale tests were also conducted onboard foreign vessels such as the U.S. Polar Class icebreakers, the FRG Polar Stern and commercial vessels such as the M.V. Columbialand (Sweden) and others.

Arctic operators and navigation support systems have been the centers of much activities. Regional and shipboard integration of navigation support information utilizing SAR/SLAR imagery has been another thrust area at TDC. Studies of advanced combined cycle propulsion systems, ice class propellers and shafts and arctic harbour ice management are only a few examples of the research required to ensure the commercial viability of marine transportation systems for the far north.

Research has also been directed towards the sub-Arctic lattitudes, with particular emphasis given to East Coast offshore marine operations. Wind and wave climate studies to quantify the severity of the operating environment, floating STOL port studies, and various studies directed towards improving the efficiency and flexibility of operations on the Great Lakes and through the St. Lawrence Seaway.

INFORMATION SOURCES AND SERVICES

TDC Library. Established in 1971 to support TDC projects, the library maintains a highly specialized transportation collection. There are over 13,000 catalogued books and reports plus some 4,500 additional reports on microfiche, covering all aspects of the many modes of transportation. Emphasis is given to current and advanced technology with potential Canadian application. Approximately 25-30 percent of the materials held feature the marine mode. The library also subscribes to over 500 periodicals, magazines and newsletters and to the Statistics Canada publications series. It distributes *Recent Acquisitions* (TP 338) every three months and *Serials Currently Received* (TP 781) annually. Two professional librarians acquire library material and offer reference and information retrieval services (including online terminal sear-

TRANSPORTATION DEVELOPMENT CENTRE (TDC)
TRANSPORT CANADA

ches) to researchers of the Centre. Outside users are asked to make an appointment to use the library. The Head Librarian is Judith Nogrady, (514) 283-0007.

The in-house TDC Management Information System (MIS) provides ready access to accurate data on the scope and status on ongoing research projects.

PUBLICATIONS

TDC Annual Report. 1981 - . Annual (TP 3230).

TDC Project Directory. 1977 - . Annual (TP 1936).

TDC Publications (TP 2602).

125 Sussex Drive,
Ottawa, Ontario K1A 0G2
(613) 996-2964
Telex 053-3745 External OTT

EXTERNAL AFFAIRS CANADA
TRANSPORTATION DIVISION

Lochhead, I.G. - Director

OBJECTIVES/FUNCTIONS

The Division contributes to the formulation and implementation of Canadian shipping and trade policies from the perspective of Canadians exporters, importers, transportation service industries.

Assists shippers and carriers in resolving transportation problems and in taking advantage of marketing opportunities.

Represents Canadian interests in multilateral fora, such as the UN and the OECD, and in bilateral relations with other countries.

ACTIVITIES

The Division's activities include the following subjects:
Deepsea merchant marine

Shipping conferences

Cargo reservation and other restrictive practices of other countries

UNCTAD and OECD shipping policies, arctic shipping

Access by Canadian exporters and shipping companies to foreign markets

Ports and waterways

International shipping conventions, International Maritime Organization

Foreign vessel clearances.

INFORMATION SOURCES AND SERVICES

The Department has transportation files by subject and by country.

Requests for information from Departmental Files will be considered on a case-by-case basis. As well formal requests may be made pursuant to the Access to Information and Privacy Act.

Mrs. Ruth M. Thompson, Director
Library Services Division (MGL)
Department of External Affairs
125 Sussex Drive
Ottawa, Ontario
K1A 0G2
(613) 992-6150

The Library is open from 10:00 a.m. to 5:00 p.m. Unclassified materials may be borrowed through inter-library loan.

1-056-G

1900 - 200 Granville Street,
Vancouver, British Columbia V6C 2P9
(604) 666-3226 Telex: 054-53310

Winkler, Tom - Manager,
Financial Planning and Treasury

VANCOUVER PORT CORPORATION (VPC)

OBJECTIVES/FUNCTIONS

The Port of Vancouver ranks first in Canada and on the Pacific coast of North America in its tonnage of international trade. A progressive program of port planning and development over the years has placed it among top international ports in strategic terms of volume of cargo handled. The major facility of the Outer Harbour is Roberts Bank, a bulk handling terminal, of 110 hectares, 20 miles south of the city. The three Inner Harbour facilities owned and operated by the VPC are: Vanterm, a terminal for the handling of container and general cargo; Lynnterm, a deep-sea semi-bulk cargo terminal handling forest products and steel; and Centennial terminal, which handles both container and general cargo.

ACTIVITIES

Development, administration and maintenance of the port.

Ongoing participant in **Roberts Bank Environmental Impact Studies**.

Commissioned study of impact of the port upon the economies of Greater Vancouver and the hinterland in 1984.

Requested modifications to Hydraulic Model which is useful in assessing the impact of developments within Burrard Inlet. 1984.

Participated jointly in a viability study of dredging the entrance to the Inner Harbour (First Narrows) with the Coast Guard. 1984.

Construction of a new $25 million Cruise Ship Facility as part of the **Canada Harbour Place Development**, which will serve as Canadian Pavilion for Expo 86. 1983-86.

Engage the services of engineering consultants for the design of various facilities related to port operations.

INFORMATION SOURCES AND SERVICES

Cargo statistics cumulated annually: import export tonnage by country of origin or destination and by commodity.

Passenger traffic statistics held and cumulated annually.

Statistics and in-house reports are proprietary in nature.

PUBLICATIONS

Port of Vancouver Educational Promotion Materials. A kit containing maps, photographs, information sheets on terminal facilities, brochures, statistical material, history of port.

Statistics (year). Summary Sheets. Annual.

Port of Vancouver (year). Commodity Statistics by Countries. Annual.

Vancouver Port Corporation (year). Statistics by Commodities. Annual.

Annual Reports.

Port News. Quarterly.

Alaska Cruise Vessel Schedule. Published for the spring-summer season.

Audio-visual presentations:

- "Port of Vancouver"
- "Roberts Bank"
- "Down to the Ships of the Sea" - working on the waterfront.
- "Salty Sam the Seagull" - children's presentation.

For enquiries about publications, contact Janet E. Toddington, Public Relations Assistant.

Organizational Sources

Associations

ARCTIC PETROLEUM OPERATORS' ASSOCIATION (APOA)

APOA Information Service

P.O. Box 1281, Station M,
Calgary, Alberta T2P 2L2
(403) 236-2344

Seely, P. - Administrative Assistant

OBJECTIVES/FUNCTIONS

The APOA was formed in 1970 as a non-profit industry research association under the joint sponsorship of a group of oil companies with interest in the Canadian Arctic. The main objective of the Association is the coordination of arctic research projects, sharing of information and providing liaison with other groups interested in the Arctic. Over the past 14 years, APOA has sponsored over 200 research projects at a cost of about $60 million.

ACTIVITIES

Numerous projects are related to marine transportation such as:

Large scale ice strength test
Aerial reconnaissance of ice - Beaufort Sea
Open water burning of oil
Environmental baseline studies
Ice conditions and mechanics
Oil spills - contingency
Drilling units.

As well, there have been studies of specialized vehicles for use in the Arctic, ecological studies, and general research and information projects. Among the latter has been support of the Arctic Institute of North America for its Beaufort Sea Symposium and an Arctic Science and Technology Information System.

INFORMATION SOURCES AND SERVICES

APOA reports can be obtained from the address listed above. Lists of reports appear in the *APOA Review*. *The Arctic Science and Technology Information System (ASTIS)* has recently prepared a bibliography of *APOA Research Projects*. Abstracts are provided for all documents in the APOA bibliography. It includes detailed title, author, subject, and geographical indexes. It costs $15.00 pre-paid and is available through APOA Information Service or from ASTIS (see entry in guide).

Courses/Programs

Annual workshop, usually in May.

Contact: Canadian Petroleum Association, Calgary.

PUBLICATIONS

APOA Review. 3 times year. Free.

Catalogue of Research Project Reports.

760 - 360 Main Street,
Winnipeg, Manitoba R3C 3Z3
(204) 942-2254

CANADA GRAINS COUNCIL (CGC)

Dr. Dever, Donald A. - President

OBJECTIVES/FUNCTIONS

The objectives of the Council under its founding terms of reference include providing a forum for discussion for the grains industry, encouraging increased usage of Canadian grains domestically and overseas, providing an information function, co-ordinating crop research and acting as a liaison between government and the grains industry.

ACTIVITIES

The Council is involved in marine matters to the extent that they affect grain transportation. The Dominion Marine Association is one of its members. Marine matters have been dealt with in the following Council reports: Port of Churchill, Pacific Coast, Thunder Bay Sub-Committee, two reports (1975 and 1979) on the Eastern Movement of Grain.

INFORMATION SOURCES AND SERVICES

Statistical data gathered in connection with reports is available to outside researchers. There is a charge for some of the material. Please contact Mrs. Ruth Turney or Mrs. Nancy Wonnick.

Conferences/Meetings

The Council holds two large general meetings annually in which matters of concern in the grains industry, including from time to time marine matters, are discussed. Any interested party can attend.

PUBLICATIONS (selected)

Canadian Grains Council Annual Report. 1970 -

Eastern Grain Movement Report and Appendices. 1975.

Final Report of the Pacific Coast Study.

Grain Movement Through the Port of Churchill.

Report of the Thunder Bay Sub-Committee.

Eastern Grain Handling and Transportation Report. 1979.

Statistical Handbook. Annual. $12.00 per issue.

Churchill as an Outlet for the Prairie Grain. 1984.

Prospects for the Prairie Grain Industry, 1990. 1982.

Grain Movement Through the Transfer Elevators in Eastern Canada. 1984.

Complete list of Council publications available.

CANADIAN ARCTIC RESOURCES COMMITTEE (CARC)

46 Elgin Street,
Room 11,
Ottawa, Ontario K1P 5K6
(613) 236-7379

Burnet, Peter - Executive Director

OBJECTIVES/FUNCTIONS

To promote the development of northern resources in a way that is rational in economic terms, in balance with the environment, and humane in its social cultural impacts, and to examine new ways for broader public participation in the policy decision of government.

To publish on an ongoing basis pertinent information related to northern development and the Arctic in order to help the public gain a better understanding of some of the important interrelationships between economic development and conservation.

To compile the factual background material necessary for the public to evaluate potential effects of exploration, development and transportation of resources on the physical environment, vegetation, fisheries, wildlife and human populations in the Canadian North.

To study, assess and report on the research related to northern development that is being carried out by government, universities and industry, particularly that pertaining to resource exploration and pipeline construction.

ACTIVITIES

A four-year study entitled *The Arctic Ocean Programme* is underway. The published proceedings of the first workshop on this issue are available.

Studies currently in progress as part of the *Arctic Seas* project deal with such issues as Arctic marine conservation policy, arctic ports policies and the role of the Inuit in Arctic offshore management.

INFORMATION SOURCES AND SERVICES

The Ottawa office houses a non-borrowing library which contains material on a variety of arctic issues, including marine transportation. Access is free to the public.

Conferences/Meetings

Workshops and seminars are convened from time to time. There are no attendance restrictions.

PUBLICATIONS

Northern Perspectives. Newsletter. Free.

Nothern Decisions. News Bulletin. $150.00 per year. (Canadian) 22 issues per year.

Ocean Policy and Management in the Arctic. July 1984, Workshop reports.

Sikumiut: "the people who use the sea ice", workshop papers, June 1984.

National and Regional Interests in the North: Third National Workshop on People, Resources, and the Environment North of 60°, October 1984, workshop proceedings, $19.95 plus $1.50 postage and handling

THE CANADIAN BOARD OF MARINE UNDERWRITERS (CBMU)

Suite 222,
69 Sherbourne Street,
Toronto, Ontario M5A 3X7
(416) 364-1223

Wildish, R.J. - President

OBJECTIVES/FUNCTIONS

The object of the CBMU is to form technical committees on hull and cargo matters and create a forum for liaison between underwriters for an exchange of expertise. It also has the function to be the spokesman for the Canadian marine insurance industry as it relates to government matters. The CBMU is also the vehicle whereby the Canadian marine insurance industry stays in touch with the worldwide market. This is done by the CBMU's membership and active participation in the International Union of Marine Insurers.

ACTIVITIES

The Canadian Board of Marine Underwriters is constantly consulting with various government bodies and making suggestions, presenting briefs on such issues as port security, etc. CBMU advises the federal government on positions which would enable Canada to deal better in the International arena in the United Nations.

INFORMATION SOURCES AND SERVICES

Outside researchers interested in the CBMU's activities and any papers or technical reports relating to Canada or other parts of the world held by the Board should contact R.J. Wildish, or Mrs. Cooke, Secretary-Treasurer.

2-059-A

CANADIAN EXPORT ASSOCIATION

Suite 250,
99 Bank Street,
Ottawa, Ontario, K1P 6B9
(613) 238-8888 Telex: 053-4888

Moore, J. D. - Secretary

OBJECTIVES/FUNCTIONS

The Canadian Export Association is a private non-profit organization composed of companies in Canada that are committed to furthering exports. It is the only national business organization exclusively concerned with the enhancement and protection of Canadian export interests.

ACTIVITIES

Through its Board of Directors and Committees, the Association is active in ensuring that government in Canada - federal and provincial and government agencies - are aware of the impact of their policies and procedures on Canadian export interests and potential. Techniques in presenting views include the submission of written briefs, meetings between the Board of Directors and federal Cabinet Ministers, consultation by Association Committees with senior officials of government departments and agencies, and discussions between Association groups resident in a particular province and representatives of the provincial government concerned.

INFORMATION SOURCES AND SERVICES

Information services are provided by the Association, including publications, seminars, the annual convention. A documentation guide setting out the trade documents required by over 80 countries is available to members. Library and reference service is provided to members and non-members visitors.

The Association maintains a specialized and extensive export-oriented lending library of over 5000 texts, periodicals and papers available for loan to members. There is a section in the library on international shipping. The library is accessible to outside users by personal visit. Mrs. Sandra Matthews (613) 238-8888.

Association staff provide reference for members on the subject of exports.

Courses/Programs

Programs of seminars are organized periodically in major Canadian centres. Some touch on transportation. Normally all may participate. Such activities are well publicized through various media, including Association publications.

Conferences/Meetings

An annual convention is held each October which, together with the formal annual meeting, provides an opportunity for discussion among the Association's membership of topics of current interest. Transportation was one of the topics dealt with at the 1984 annual meeting, October 15th and 16th in Toronto.

PUBLICATIONS

Export News Bulletin. Monthly. Provides concise information on changes in export policies and regulations in Canada and on developments in other countries.

Export Digest. Monthly. Surveys specialized publications from around the world dealing with international trade and provides capsule summaries.

Export U.S.A. Monthly. Provides reference to U.S. trade legislation and regulation changes, and to development in the environment for Canadian trade in the U.S.

THE CANADIAN INSTITUTE OF MARINE ENGINEERING (CIMarE)

Suite 706,
116 Albert Street,
Ottawa, Ontario K1P 5G3
(613) 234-3374

Arnsdorf, H. - Executive Director

OBJECTIVES/FUNCTIONS

CIMarE was incorporated by Federal Charter in April 1976. Its aim is to advance and promote in Canada the science and practice of marine engineering, naval engineering, naval architecture, ocean engineering, marine electronics, and control engineering and other associated professions.

In furtherance of this aim, Council sees the following as the objectives of the Institute:

> Enable Marine Engineers and those of associated professions to meet and to correspond; facilitate the interchange of ideas and the publication and communication of information.
>
> Uphold the status of members of the Institute by prescribing standards of knowledge and experience and applying such standards for election to membership in the Institute.
>
> Cooperate with kindred professional associations.
>
> Maintain and improve the status of the Marine Engineering profession.
>
> Cooperate with educational establishments and others in the furtherance of education in the science and practice of Marine Engineering.
>
> Cooperate with the governments of Canada and other agencies in the improvement of existing, and the development of new safety regulations related to the profession.
>
> Do any such lawful things as are incidental or conducive to the attainment of any of the above mentioned Aim and Objectives.

ACTIVITIES

The Institute offers a solution to Canada's mobile marine engineering fraternity with eight Branches across Canada.

Each Branch offers at least five technical meetings annually as well as social affairs. Some also arrange meetings attended by other technical association.

The Institute has representatives on Federal and Provincial government committees, which ensures that the Institute is not only identified as a learned society involved in marine engineering matters, but also one that speaks on behalf of all engineers working in Canada's marine sector. Priority is given to training, certification, and safety standards, with interest in marine policy, such as the issue of a Canadian Merchant fleet and development of an integrated marine industry capable of supporting Canada's needs particularly in times of international tension.

INFORMATION SOURCES AND SERVICES

The technical library is being expanded and is accessible to outside users. The person in charge is Ms. Patricia Menicucci.

Conferences/Meetings

Regular technical (and social) meetings are held in all branches and visitors are normally welcome. For more information, the Honorary Branch Secretary/Area Coordinator should be contacted.

Normally in May each year, a National Technical Conference entitled MARI-TECH 8-, lasting 1 day - 1 1/2 days, is convened, at which technical papers are read and discussed. In 1981 the location was Toronto, in 1982 it was held in St. John's in 1983 it was in Victoria, in 1984 in Ottawa, in 1985 in Montreal and it will be held in Vancouver in 1986 and in Halifax in 1987.

PUBLICATIONS

Marine Engineering Digest. Quarterly, 1981 - . $9.50 year.

Mari-Tech 8- Conference papers $30.00.

2-061-A

CANADIAN INSTITUTE OF TRAFFIC AND TRANSPORTATION (C.I.T.T.)

573 King Street East,
Toronto, Ontario M5A 1M5
(416) 363-5696
Deyglio, Victor - Executive Vice-President

OBJECTIVES/FUNCTIONS

To promote professionalism in the transportation and physical distribution industries. To provide and develop educational programmes to lead to and ensure that professionalism. Such programmes deal with the subjects of regulation, freight tariffs, insurance, claims, marine transportation, import/export of commodities, damage prevention, computers and transportation, etc.

ACTIVITIES

C.I.T.T. programme is taught on an independent studies basis through the University of Toronto.

INFORMATION SOURCES AND SERVICES

The Institute has a modest library that is in the process of being up-dated and reorganized. Although outsiders may use it for reference purpose, its disarray makes it difficult to use.

Courses/Meetings

The Institute offers a 10 course education programme on an independent studies basis through the University of Toronto. Courses are open to anyone.

Annual conference/seminar on various topics held in conjunction with annual meeting, open to public.

PUBLICATIONS

C.I.T.T. Newsletter, monthly, free to members, non-member "free list" of those who request the newsletter.

Syllabus: Canadian Institute of Traffic and Transportation, published annually, free upon request.

Canadian Traffic and Transportation, Volume 1 and 2, 6th edition, 1984, up-dated in sections every six months.

CANADIAN INTERNATIONAL FREIGHT FORWARDERS ASSOCIATION INC. (C.I.F.F.A.)

10 Glenmore Road,
Toronto, Ontario M4L 3L9
(416) 698-1966

Gulvin, R. - President
Church, P. - Secretary Manager

OBJECTIVES/FUNCTIONS

To represent the national voice of Canadian freight forwarders in international trade by means of liaison with shipping conferences, government bodies, and other associations.

ACTIVITIES

Liaison with the Canadian Ports and Traffic Development Committee and the Shipping Federation of Canada. C.I.F.F.A. is the Canadian representative of the world organization F.I.A.T.A.

INFORMATION SOURCES AND SERVICES

Limited information services provided through secretary-manager.

Courses/Programs

For employees of members only, a two-year correspondence course is offered on all aspects of international trade.

PUBLICATIONS

C.I.F.F.A. Newsletter. Bimonthly, free to members, samples free to enquirers.

Membership List. December 1985.

Record of Proceedings of the Annual General Meeting.

ADDITIONAL INFORMATION

Branch offices:

C.I.F.F.A. Central Division
P.O. Box 787, Station 'A'
Toronto, Ontario
(416) 673-1591

C.I.F.F.A. Western Division
P.O. Box 2147
Vancouver, British Columbia
(604) 681-5132

C.I.F.F.A. Eastern Division
P.O. Box 156, Place d'Armes
Montreal, Quebec
H2Y 3E9
(514) 288-2106

C.I.F.F.A. Prairie Division
P.O. Box 2140
Calgary, Alberta
T2P 2M4
(403) 230-4101

Suite 300,
363 rue François Xavier,
Montreal, Quebec H2Y 3P9
(514) 845-9151 - Telex: 05-25266

Malott B.N., Secretary Treasurer

CANADIAN MARITIME LAW ASSOCIATION (CMLA)

OBJECTIVES/FUNCTIONS

The study and advancement of maritime law in Canada.

The promotion of unification of international maritime law.

The provision of opportunities for discussion and consideration of matters of interest to members.

ACTIVITIES

The formation of sub-committees to study matters under consideration by Comité Maritime International and or of particular interest to members.

INFORMATION SOURCES AND SERVICES

Records of the Association's studies of international and national conventions are held for members' use. Outside researchers may obtain access if the agreement of the executive committee of the Association is obtained.

ADDITIONAL INFORMATION

CMLA is the Canadian member of the International Maritime Law Association (Comité Maritime International).

2-064-A

78 Prince Edward Ave.
Pointe Claire, Quebec H9R 4C7
(514) 697-4264

Mackenzie, Kenneth S.

CANADIAN NAUTICAL RESEARCH SOCIETY

OBJECTIVES/FUNCTIONS

The purpose of the Society is to promote in Canada the study of ships, shipping affairs, the men and women associated with them and their relationship with the development of societies and maritime environments.

ACTIVITIES

No corporate activities as such, beyond the Newsletter. Individual members, however, are conducting a wide range of studies and projects.

PUBLICATIONS

Argonauta. Newsletter, Quarterly 1984- available to members.

ADDITIONAL INFORMATION

We plan to hold one annual conference a year, of 2 or 3 days duration; participate annually in the Learned Societies as part of the Canadian Historical Association, and at other occasions. For example, in 1985 members will be participating in October in part of the activities commemorating the 75th anniversary of the Naval Officers Association of Canada.

Anyone may participate, and details will be found in our newsletter, *Argonauta*.

Membership is presently $10 a year, for 4 issues.

2-065-A

CANADIAN PETROLEUM ASSOCIATION
OFFSHORE OPERATORS DIVISION

1500, 633 Sixth Ave. S.W.
Calgary, Alberta T2P 2Y5
(403) 269-6721

White, Laura

OBJECTIVES/FUNCTIONS

The objectives of the OOD are to conduct research into environmental, socio-economic and engineering impacts of offshore operations; to review regulations that affect the industry in Canada's offshore; and - through the Canadian Petroleum Association - to make recommendations on offshore policy to government.

ACTIVITIES

Research projects related to marine transportation include:

Sea-ice survey - a study of sea-ice on East Coast, including ice- strength, properties and pressure ridges. Operated by AMOCO. Four participants.

Iceberg towing and drift experiments - a study of the feasibility of towing icebergs and to establish the characteristics of iceberg movements. Operated by AMOCO, four participants.

Iceberg impact effect against a drillship - to assess forces and resultant structural damage to a ship's hull caused by growlers. Operated by Total-Eastcan, five participants.

Labrador sea-ice pack studies during the 1978 winter - to determine the conditions prevailing during freeze-up in order to define design criteria for any production system which will produce during the ice-free season and the comparatively light ice conditions of the freeze- up period from January to late February. Operated by Total-Eastcan. One participant.

Joint CRCC/PA Telecommunications Study - to investigate the causes of, and possible solutions to, the serious problems encountered in communications between on and offshore. Present requirements as they relate to the operation of exploration drilling rigs located as many as 300 miles offshore, and future requirements as they pertain to communications with producing facilities (if and when commercial production is obtained) are being investigated.

INFORMATION SOURCES AND SERVICES

Some previous project reports are available. C.P.A. has a small library. Access to information is limited, and by appointment only.

Contact Laura White.

PUBLICATIONS

Eastern Offshore News. 3/year.

ADDITIONAL INFORMATION

Regional offices:

Newfoundland	Toronto-Dominion Place 140 Water Street P.O. Box 5218 St. John's, Newfoundland A1C 5W1 (709) 726-7270
Nova Scotia	1105 Bank of Montreal Tower 5151 George Street Halifax, Nova Scotia B3J 1M5 (902) 421-1159

P.O. Box 2266,
Thunder Bay, Ontario
(807) 345-3485 - Telex: 073-4347
Baca, Evelyne - Secretary/Treasurer

CANADIAN PORT AND HARBOUR ASSOCIATION (CPHA)

OBJECTIVES/FUNCTIONS

To facilitate the exchange of information among federal ports organizations and the discussion of mutual problems.

ACTIVITIES

Committees of the Association undertake research projects on topics of common interest to all ports such as fire-fighting. The Association takes action (such as submissions to the federal government) based on the reports resulting from such projects.

INFORMATION SOURCES AND SERVICES

Administrative files and back-up files of specific projects held in-house.

PUBLICATIONS

Proceedings of annual meetings.

Economic Impact Kit - a computer-based programming package designed to help ports study the economic impact of local port facilities. In progress.

Directory - Annual.

2-067-A

CANADIAN SHIPBUILDING AND SHIP REPAIRING ASSOCIATION (CSSRA)

Suite 801, 100 Sparks Street,
Ottawa, Ontario K1P 5B7
(613) 232-7127 Telex: 053-4848
Walsh, Henry M. - President

OBJECTIVES/FUNCTIONS

The Association is the national service organization for some 100 organizations of the Canadian shipbuilding, ship repairing and allied industries. Its objectives are the preservation, maintenance and development of these industries for the advancement of the industrial, technological, economic, social, defence and sovereign interests of Canada.

ACTIVITIES

The CSSRA operates through a Board of Directors of not less than 15 members who are responsible for policy decisions. The Directors meet three of four times a year as the need arises, with the annual meeting usually in May or June.

The CSSRA through the formation of committees such as the Productivity Committee and Education Committee encourages the sharing of new ideas and techniques in production and training to ensure a progressive, competitive industry. Through the establishment of Metrication, Standardization and Energy Conservation Committees, the CSSRA is actively assisting the government in these important areas.

Several working committees support the Directors.

The Technical section, shipbuilding and ship repairing - comprised of engineers, naval architects, superintendants, etc., studies the technical administrative details of shipbuilding in specially convened committees. This section meets annually in February, in Montreal. The productivity, metrication standardization and energy conservation committees are part of the technical section.

The allied Industries section studies those specific industrial interests relating to their business with shipbuilders and ship owners. This section meets at various times during the year.

The Financial section comprised of treasurers, comptrollers, vice- presidents of finance, etc., studies the financial and contractual administration of shipbuilding. This section meets as required in small committees for specific purposes and annually in May, usually in Ottawa.

The Personnel section, comprises senior personnel officers. Meets once or twice a year to review personnel matters including training programs. The training and education committees are part of the Personnel section.

Two government/industry working committees, the DSS/CSSRA contractual committee and the DRIE/CSSRA working group meet regularly to resolve current problems in government/industry relations.

INFORMATION SOURCES AND SERVICES

A small library of technical material, 100-150 titles. Researchers have been given access to the collection. Inquiries to Mrs. J. MacPherson, Secretary-Treasurer.

PUBLICATIONS

Quarterly production of summaries which contain a minimum of 15 pages of statistical information on the Canadian shipbuilding industry.

Annual Statistical Report.

Canadian Shipbuilding and Allied Industries. Directory of Services, Products and Facilities. 1985. (upgraded annually) - see entry: B-115.

Tariff Rulings in Shipbuilding 1985 Edition. Amended annually.

Opportunities in Shipbuilding. (English or French ed.)

Canadian Shipbuilding and Ship Repairing Association. *Annual Technical Conference.* Papers. See entry: B-085.

2-068-A

CANADIAN SHIPOWNERS ASSOCIATION

Suite 703 - 350 Sparks Street,
Ottawa, Ontario K1R 7S8
(613) 232-3539 - Telex: 053-3522

Hall, T. Norman, President

OBJECTIVES/FUNCTIONS

The general objective of the Canadian Shipowners Association is to promote an economic and competitive Canadian marine transportation. In keeping with the general objective, the association will support a national policy conducive to the development and maintenance of the Canadian flag merchant fleet in the inland, coastal and arctic waters of Canada and foster the growth of a Canadian flag deep sea merchant fleet.

INFORMATION SOURCES AND SERVICES

Files are not available for outside users. For information contact the secretary.

c/o Canadian Export Association,
99 Bank Street,
Ottawa, Ontario K1P 6B9
(613) 238-8888
Moore J.D. - Secretary

THE CANADIAN SHIPPERS' COUNCIL

OBJECTIVES/FUNCTIONS

The objectives of the Council are to further the interests of exporters and importers in Canada in relation to the international transportation of goods by land, sea or air with particular emphasis on maritime transport by:

Bringing together the representatives of various shippers'associations, trade and industrial associations/organizations, for consideration and discussion of the problems affecting Canadian import and export cargo.

Providing for mutual consultations between shippers and international carriers, port authorities, and government on matters of common interest.

Representing the views of shippers in regard to the structure of international freights rates, availability and adequacy of shipping space, frequency of service, etc.

Negotiating and entering into agreements with conference lines/shipowners and other carriers on matters affecting shippers which involve general principles and policies or on such other matters which any shippers' association has been unable to solve and are referred to the Council.

Representing the interests of Canadian shippers in respect of laws and regulations relating to the international movement of cargo and to the operation of Canadian ports and harbours.

Promoting the simplification of trade procedures and thereby to facilitate the international movement of goods.

ACTIVITIES

Consultation with shipping conferences through the Conference Liaison Committee on rate-making, contracts and services.

INFORMATION SOURCES AND SERVICES

In-house files and reference material.

Conferences/Meetings

Annual meeting with business representatives usually May/June.

Meetings with Owners Committees of various shipping conferences.

Members meetings.

200 - 1575 West Georgia Street,
Vancouver,B.C. V6G 2V3
(604) 687-9677
Pollock J.A. - President

COUNCIL OF MARINE CARRIERS (C.M.C.)

OBJECTIVES/FUNCTIONS

The Council of Marine Carriers represents 26 companies, operating towboats and coastal vessels on the West Coast, Arctic and international waters, in both technical and labour relations matters. The Council promotes the general welfare of the marine and general transport industry and coordinates many of its activities.

ACTIVITIES

Council activities include internal committees and joint committees with labour organizations on matters concerning technical, safety, education and training.

A few technical and research projects have been promoted by the Council but primarily, as an association representing a major component of marine transportation, the Council becomes involved in a number of activities and projects concerning equipment, and safety and operational matters.

INFORMATION SOURCES/SERVICES

The Council is responsible for supplying information to its members on technical and labour relations matters for which a small library is maintained. Information may be supplied to government, news media, other organizations and individuals on request by calling CMC office. Historical data and photographs of West Coast towing operations.

Conferences/Meetings

B.C. Towboat Industry Conference - usually biennial. Previous conference held - March 23-24, 1984, at Victoria (157 attendees).

Next conference planned for March, 1986.

Open to any person interested in the development of the towboat industry. Participants advised by mailing list and trade magazines. Copies of the proceedings are given to each delegate and individual speakers may release copies of their papers to interested parties.

PUBLICATIONS

Bulletin (bimonthly) - members only.

Drushka, Ken. *Against Wind and Weather.* Vancouver: Douglas and McIntyre, 1981.-(History of towboating in British Columbia.)

2-071-A

DOMINION MARINE ASSOCIATION (DMA)

Suite 703,
350 Sparks Street,
Ottawa, Ontario K1R 7S8
(613) 232-3539 - Telex: 053-3522

Hall, Norman T. - President

OBJECTIVES/FUNCTIONS

The Dominion Marine Association was founded in 1903 to represent Canadian flag shipowners in the interest of promoting efficient and economical marine transportation for Canada. The 16 member companies represent 95% of the cargo carrying capability of the entire Canadian merchant fleet of self-propelled ships of 1,000 gross registered tonnage or over.

ACTIVITIES

The DMA monitors legislations and regulations related to the industry, collects and publishes statistical data. A public relations program is underway to convey a better understanding of the importance of marine industry.

Besides the Annual General Meeting, there is an Annual Joint Conference of DMA and Lake Carriers' Association, and meetings of the Navigation and Marine Engineers Committees where government and industry representatives are present.

INFORMATION SOURCES AND SERVICES

For additional information contact: The Secretary.

PUBLICATIONS

Annual Report (free).

2-072-A

606 - 116 Albert Street,
Ottawa, Ontario K1P 5G3
(613) 233-8779

Dr. Rothwell, Donald S.
President and General Manager

GREAT LAKES WATERWAYS DEVELOPMENT ASSOCIATION

OBJECTIVES/FUNCTIONS

To promote low cost transportation on Canada's inland waterways.

INFORMATION SOURCES AND SERVICES

Files may be consulted without charge at the association.

INTERNATIONAL ASSOCIATION OF GREAT LAKE PORTS

60 Harbour Street,
Toronto, Ontario M5J 1B7
(416) 863-2037 - Telex: 06-219666

Closs, Kenneth L.

OBJECTIVES/FUNCTIONS

To encourage the exchange of information between ports, relative to port facilities, administration, development. To encourage the development and use of water transportation on the Great Lakes.

ACTIVITIES

The Association operates through a number of committees to keep members informed and up-to-date and to lobby on behalf of their interests and concerns at the national level. Committees deal with traffic, legislation, tolls, engineering and operations, publicity and promotion. The Association promotes the exchange of tonnage statistics, monitors seaway statistics and is concerned with the extension of the shipping season.

INFORMATION SOURCES AND SERVICES

The main office holds records of meetings, minutes, statistics, etc., and operates an informal referral service which is accessible by a written request.

Conferences/Meetings

The annual meeting provides an opportunity for all members and outside observers to exchange information. Each port presents material and system problems are examined.

2-074-A

510 - 360 Main Street,
Winnipeg, Manitoba R3C 3Z3
(204) 942-2424

MacDonald, R.D.

LAKE SHIPPERS' CLEARANCE ASSOCIATION (LSCA)

OBJECTIVES/FUNCTIONS

Represents Canadian lake shippers, grain and terminal companies using the port of Thunder Bay. The Association approves and allocates all orders for all grain shippers, thereby ensuring the loading of ships to best advantage in the port of Thunder Bay.

ACTIVITIES

Administers the grain cargo for the port of Thunder Bay.

Keeps financial statistics for its member lake shipping companies.

INFORMATION SOURCES AND SERVICES

Cargo and financial statistics of association members (grain shipments in and out of Thunder Bay). These files are accessible to outside researchers by personal visit.

ADDITIONAL INFORMATION

Branch office:

221, Archibald Street
Thunder Bay, Ontario P7C 4V8
(807) 623-8491

2-075-A

Secretariat, c/o Chief,
Marine R&D / Energy,
Marine Administration,
Transport Canada,
Ottawa, Ontario K1A 0N7
(613) 995-7324

Ellwood, Wayne - Secretary

MARINE TRANSPORTATION R&D ADVISORY BOARD

OBJECTIVES/FUNCTIONS

To identify problems related to the marine transportation industry in Canada and to recommend areas for research activity to meet these needs. The Board is composed of members of the industry. It is supported by a network of regional boards, each of which addresses specific areas of marine transportation: vessel and systems technology, terminal operations and shore facilities, navigational aids and traffic management, ice management, marine statistics and information systems.

ACTIVITIES

Coordinated work program proposed by industry for long time research support in conjunction with the Government of Canada.

The program emphasizes short term market generated issue areas including projects on:

- development of safe and efficient marine transportation systems in the Arctic.
- improved training facilities for marine operators.
- improved productivity in ports and terminals.
- assisting in design, building, operating efficient Canadian ships.
- improving safety and efficiency of marine transportation.

INFORMATION SOURCES AND SERVICES

Files generally available. Some restrictions may apply due to industry- requested confidentiality or restriction to Canadian-based industries only.

Tri-annual *Project Report* is available upon request.

Conferences/Meetings

M.V. Arctic Seminar 1985. Montreal, Sept. 16-17, 1985.

Annual Seminar series.

NAVAL OFFICERS ASSOCIATION OF CANADA

74 Cavendish Cresc.,
Bramalea, Ontario L6T 1Z4
(416) 793-7388

Laidlaw, Murray E.

OBJECTIVES/FUNCTIONS

To maintain a watching brief on national items of maritime interest. To work through various standing and ad hoc committees to prepare submissions to federal government. In the last five years briefs have focussed on defense, sovereignty of the high Arctic, mine countermeasures, water safety, Canadian merchant marine, Canadian Coast Guard. Briefs are cleared in the national association level and then presented to the appropriate body. Copies of the briefs are held by members of the Executive Committee and some are released to the media. To form a cohesive voice outside government for ex and serving Naval officers.

INFORMATION SOURCES AND SERVICES

The briefs are made available on request. The background research done by committee members to prepare the briefs or to follow up on various issues are maintained in each member's personal files. They are not usually centrally organized and available.

PUBLICATIONS

"Starshell" - Newsletter, quarterly $18.00/year.

Committee chairmen prepare quarterly and annual reports and the National President prepares an annual overview report. These are internal reports.

ADDITIONAL INFORMATION

Sixteen branch units/chapters are located in principal cities across Canada and in Belgium. The National Council is comprised of a representative from each branch plus elected directors and officers of the National Council. The officers are the National President, National Vice-President, five regional vice-presidents, the National Secretary, Treasurer, and the Honorary Counsel.

Membership is open to commissionned officers of the Canadian and British navies, male or female, including Nursing Sisters. Associate membership available in some branches to allied officers.

2-077-A

4 Queen Elizabeth Drive,
Ottawa, Ontario, K2P 2H9
(613) 993-5415

THE NAVY LEAGUE OF CANADA

Armstrong, G.G.
Director, Maritime Affairs

OBJECTIVES/FUNCTIONS

To promote an interest in maritime affairs generally throughout Canada.

To prepare, publish and disseminate information and encourage debate relating to the role and importance of maritime matters in the interest of Canada.

PUBLICATIONS

Maritime Affairs Bulletin. Quarterly.

Available to corporate and individual members of The Navy League of Canada.

Suite 518,
276 Rue St. Jacques,
Montreal, Quebec H2Y 1N3
(514) 849-2207

THE SALVAGE ASSOCIATION

Deere, G.H. - Principal Surveyor

OBJECTIVES/FUNCTIONS

The principal function of the Association is to investigate casualties on behalf of underwriters, mainly within the London insurance market. The Association examines the circumstances of the casualty and determines the extent of damage to the property, subsequently providing the owner with information and recommendations for the protection and preservation of the interests of all parties.

ACTIVITIES

The Salvage Association arranges damage surveys on vessels and marine structure of all types. Subsidiary activities of the Association include towage and voyage approvals, negotiation of ship repair contracts, checking of cargo, survey and approval of lay-up sites and arrangements. The Association is heavily involved in the whole spectrum of the offshore oil industry.

INFORMATION SOURCES AND SERVICES

Montreal office houses files which detail damage to vessels and descriptions of salvage operations within Canadian waters. These files are not available to outside researchers. The London office includes an Information Retrieval Department which keeps accurate and up-to-date records and case histories of marine casualties. As well, the department keeps Association members advised of special features on individual vessels and unusual hazards encountered. A databank facility is now operational within the Information Retrieval Department. The chief benefit is the provision of statistics to members.

ADDITIONAL INFORMATION

Other Canadian offices:

Ste. 207, 6080 Young Street
Halifax, Nova Scotia B3K 5L2
(902) 454-6469
Smytt, R.S., Principal Surveyor

93 Ontario Street
St. Catharines, Ontario L2R 5J7
(416) 682-6653/4
Rowson, D., Resident Surveyor

931 Marine Building, 355 Burrard Street
Vancouver, British Columbia V6C 2G8
(604) 688-9548/9
Logan, W.J., Principal Surveyor.

634 St. Jacques,
Montreal, Quebec H3C 1E7
(514) 842-8161 - Telex: 05-25473

Boyle, Andrew C.
Executive Vice-President

SEAFARERS' INTERNATIONAL UNION OF CANADA

OBJECTIVES/FUNCTIONS

The S.I.U. of Canada is a trade union, which represents unlicensed personnel working aboard Canadian ships.

ACTIVITIES

Presently involved in the operation of the Seafarers Training Institute in Morrisburg, Ontario. (see: 3-97-R).

INFORMATION SOURCES AND SERVICES

Material relates to the operations of the total marine transportation in Canada.

Files are not available to outside researchers.

Courses offered at the Seafarers Training Institute in Morrisburg, Ontario and only people designated by the Union or the S.T.I. may participate.

PUBLICATIONS

Canadian Sailor, monthly newspaper distributed to members free of charge.

ADDITIONAL INFORMATION

Regional office:

1657 Barrington St.
Suite 315
Halifax, Nova Scotia B3J 2A1
(902) 423-8911

630 Boul. des Capucins
Quebec, Quebec
G1J 3R8
(418) 529-6801

Also branches in Toronto, Thorold and Thunder Bay, Ontario.

Suite 326,
300 St. Sacrement Street,
Montreal, Quebec H2Y 1X4
(514) 849-2325 Telex: 055-61042

Crichton, John A. - President

THE SHIPPING FEDERATION OF CANADA

OBJECTIVES/FUNCTIONS

The Shipping Federation of Canada, incorporated in 1903, is an association of deep-sea and coastal shipping agents, ship owners, charterers and operators representing and performing ocean and coastal shipping services from and to Eastern Canada, St. Lawrence River, Great Lakes and Arctic Ports. Its membership includes representatives/owners of tanker tonnage and transient/tramp vessels as well as liner services.

District Committees of the Federation are maintained at Halifax, Nova Scotia, Saint John, New Brunswick, and Toronto, Ontario to assist on local problems arising at those ports. The Federation is a purely Canadian organization, but works closely with similar other organizations in the general interest of shipowners. It is a club member of the Baltic and International Maritime Conference in Copenhagen.

ACTIVITIES

The Federation's primary function is the protection of the interests of its members on all matters affecting the operation of shipping in the areas mentioned above. These interests include Federal Government legislation and regulation, pilotage, pollution, aids to navigation, port operations, port charges, etc.

2-081-A

WESTERN TRANSPORTATION ADVISORY COUNCIL (WESTAC)

910-885 Dunsmuir Street,
Vancouver, B.C. V6C 1N5
(604) 687-8691

Melville, Maureen B.
Corporate Secretary

OBJECTIVES/FUNCTIONS

WESTAC is an organization of senior business, labour and government leaders which seeks to enhance the economic development of Western Canada through co-operative approaches to the transportation related issues and opportunities facing the Region. To achieve this the Council focuses attention on critical transportation issues, supplies impartial factual information on the issues and provides a neutral forum within which the active parties may work together to achieve common goals.

ACTIVITIES

The Board of Directors and its Executive Committee regularly consider current issues, major initiatives by outsiders and requests from the federal government. WESTAC also sponsors a variety of on-going Task Forces and Working Committees as well as one-time working sessions, conferences and seminars. Some past marine related subjects have been addressed: national ports policy, transportation regulation, CIF and FOB pricing of western exports, port development at Vancouver, Thunder Bay, Prince Rupert and Churchill, container traffic through Vancouver.

INFORMATION SOURCES AND SERVICES

Contact file - card file of reference information on 900 individuals in 500 organizations in the western transportation community. Arranged by 50 subject categories. Reviewed every 18 months.

Newsclip file - contains information on major western and economic topics selected from six western and three national newspapers. File is two years old, arranged in 200-300 subject categories. Marine areas include ports, ports policy, marine industry.

Data file - in process. Will consist of pertinent facts and figures.

Catalogue file - transportation holdings in major libraries and research institutes throughout Canada and the U.S.

Reference collection - emphasis on current material related to topics of concern to members. Material acquired by subscription, mailing list, requested by members. Organized by 25-40 subject headings.

Access to outside researchers limited on a "need to know" basis.

Conferences/Meetings

Twice each year, at the Annual and Semiannual Meetings, all WESTAC members meet for two days in closed discussion sessions to consider subjects of major concern to western transportation. A special committee of the Board of Directors has responsibility for agenda development for these meetings.

Special meetings are called from time to time to consider specific current topics.

PUBLICATIONS

WESTAC Newsletter. Four issues per year.

The Routing of Container Traffic through Vancouver and Seattle. January 1975.

Port of Vancouver Terminal Grain Handling. August 1975.

West Coast Bulk Exports - History and Forecast. September 1978.

Vancouver B.C. Branch,
P.O. Box 3096,
Vancouver, B.C. V6B 3X6
Etchell, W.J.

WORLD SHIP SOCIETY

OBJECTIVES/FUNCTIONS

The World Ship Society a voluntary organization, was launched in England in 1946. The principal object of the Society is to provide an organization to cater to the requirements of all persons who are interested in ships and the sea. The society is world wide, with members in more than fifty countries.

ACTIVITIES

The Vancouver, B.C. branch was founded in 1954. Meetings are held on the second Wednesday of every month from September to May at the Maritime Museum, 1905 Ogden St. (Kitsilano), Vancouver. Field trips are arranged to ships in port and any other places of nautical interest.

There are no qualifications for membership beyond your own interest in ships and the sea. Meetings and trips are conducted in a pleasant but efficient atmosphere of informality.

The Mutual Interests Scheme enables members to correspond with other members throughout the world who share their interests and exchange information, photographs and other data.

INFORMATION SOURCES AND SERVICES

The Central Record is an important and unique source of reliable and accurate information regarding ships, (especially since 1815), shipowners, shipbuilders, ports and their details and histories, to which workers refer from all parts of the world.

The Branch Library is a new project which will continue to expand. We have a small collection of books on ships and shipping which is available to members.

PUBLICATIONS

Marine News. Marine information on world ship building, monthly ship sales, transfers, renaming casualties losses and historical articles. This is the Society's official publication.

The Barnacle. Vancouver Branch newsletter.

ADDITIONAL INFORMATION

Canadian branch Chairmen:

MONTREAL:
M. René Beauchamp
9043 Bellerive
Montreal, Que. H1L 3S5

HALIFAX:
Mr. Graham McBride
15 Laurel Lane
Halifax, N.S. B3M 2P7

VANCOUVER:
Mr. W.J. Etchell
P.O. Box 3096
Vancouver, B.C. V6B 3X6

2-083-A

CHAMBER OF SHIPPING OF BRITISH COLUMBIA

205 - 355 Burrard Street,
Vancouver, B.C. V6C 2G8
(604) 681-2351
Captain Stevens, R.C. - Executive Director

OBJECTIVES/FUNCTIONS

The Chamber consists of 43 full member companies, 2 joint member companies and 17 associate member firms. The objectives of the Chamber are:

to further cooperation among persons, firms and corporations in the Province of British Columbia engaged in deep-sea shipping businesses as owners, agents or operators, and to promote their interests.

to undertake the study of problems relating to the shipping industry, and to exchange information among members and others.

to assist federal, provincial and municipal governments and departments with respect to the development of harbours and shipping facilities throughout the province of British Columbia.

to propose legislation and regulations which shall or may affect shipping and related industries, to federal, provincial and municipal governments.

to advise governmental bodies or their departments on matters affecting the customs of the ports, documentation, commercial charges, practices and any other matter whatsoever affecting the interests of deep-sea shipping.

to promote the highest standards of business ethics among persons, firms and corporations engaged in the shipping industry.

ACTIVITIES

The Chamber acts through a number of standing committees dealing with aids to navigation and pilotage, legislation, port operations and development, super-cargoes and passenger vessels. The Chamber, through its Board of Directors and Committees, maintains close working relationships with the Vancouver Port Corporation, Pacific Pilotage Authority, Canadian Coast Guard, Canada Customs and similar agencies.

INFORMATION SOURCES AND SERVICES

The Chamber collects government publications relating to pending legislation, labour relations, customs and revenue in addition to tonnage and general statistics from the Port of Vancouver, Fraser River and Nanaimo. The collection is available to members of the Chamber only.

Conferences/Meetings

A general meeting is held annually. Other general and committee meetings as needed.

PUBLICATIONS

Newslog. Monthly newsletter.

Reports presented at the annual meeting are made available to members. Circulars are distributed immediately to members as required.

Organizational Sources

Academic/Research Organizations

THE ARCTIC INSTITUTE OF NORTH AMERICA (AINA)

University Library Tower,
2500 University Drive N.W.,
Calgary, Alberta T2N 1N4
(403) 220-7515

Dr. Schledermann, Peter
Executive Director

OBJECTIVES/FUNCTIONS

The purposes of the Arctic Institute are to assist and cooperate in the orderly development of the North through the sponsoring of research and the acquisition and dissemination of information. AINA, founded and incorporated through Act of Parliament in 1945, is a non-profit tax-exempt research and educational organization. It has been an Institute of the University of Calgary since 1979, and is governed by a Board of Directors. AINA's activities embrace all scientific disciplines, natural and social. Though mainly concerned with the North, its interests extend also to Antarctica and to alpine environments.

ACTIVITIES

The primary function of the Institute is the promotion and conduct of research in the natural and social sciences. Its program is of the broadest possible nature, dealing with both fundamental and applied sciences. Projects supported range from small-scale, highly specialized research efforts by small groups or individual scientists, to expeditions with substantial personnel that embrace multidisciplinary or interdisciplinary aspects of science.

The Arctic Institute maintains permanent research facilities in the North. **Kluane Lake Research Station** is located in the southwestern Yukon and is a multidisciplinary research station that can accomodate up to 40 people. The **Devon Island Research Station** on Truelove Lowland is the site of an integrated research program on the ecology of the Arctic.

INFORMATION SOURCES AND SERVICES

The AINA Library is administered by the University of Calgary Library. The collection of approximately 17,000 bound volumes,650 current periodical titles, and various microfiche and microfilm resources, as well as maps, photographs, and hydrographic charts, spans all scientific disciplines and interests related to the North. For library services, the contact is the Northern Studies Library, (403) 284-5966.

The Arctic Science and Technology Information System (ASTIS) is an automated bibliographic database operating through the auspices of AINA. ASTIS produces a *Current Awareness Bulletin* and an annual *Bibliography*; the Bulletin is issued six times per year. Special publications are also produced by ASTIS in cooperation with other research and information organizations. (See also B 001)

PUBLICATIONS

Bibliography of the Naval Arctic Research Laboratory. 1973. $7.50.

Legal and Regulatory Framework for Arctic Marine Commerce, with Special Reference to the United States. 1974. $3.00.

Oil and Gas Pipelines in the North. 1974. $2.00.

Polar Oceans. Proceedings of the 1974 SCOR/CAR Polar Oceans Conference. 1977. $40.00

Arctic. (Quarterly journal). $25.00 per year individuals, $50.00 per year institutions.

Arctic Cummulative Index, 1948-1983. 1984. $10.00.

Beaufort E.I.S. Bibliography. 1983. Free.

Bibliography of the Lancaster Sound Resource Management Plan Supporting Documentation. 1983. Free. Order from Pallister Resource Management Ltd., 105 - 4116 - 64 Avenue S.E., Calgary, Alberta T2C 3B3.

3650 Wesbrook Mall,
Vancouver, B.C. V6S 2L2
(604) 224-4331 - Telex: 04-507748

BC RESEARCH

Dr. Howard, T. E. - Executive Director

OBJECTIVES/FUNCTIONS

BC Research is the technical operation of a non-profit, independent society, the British Columbia Research Council. It conducts research development and other technical work in the fields of Biology, Chemistry, Engineering, Physics, Management and related disciplines under contract to sponsors both in industry and government.

ACTIVITIES

The **Ocean Engineering Centre** performs ship model testing in its towing and manoeuvering tanks, produces ship models, offers design consultation on hull forms and structures, and designs electronic and hydraulic control systems. Research has been conducted on marine construction materials.

The **Operations Management Division** has undertaken applied research on all modes of transportation, with special emphasis on marine transport.

Our work has included projects such as reviewing the major problems and issues in Western Canada transportation systems; preparing an inventory of existing transportation services and traffic flows; evaluating marine terminal alternatives, formulating the terms of reference for marine terminal management contracts; forecasting industrial activity and river traffic; surveying ferry passengers; and optimizing shipping and distribution procedures.

INFORMATION SOURCES AND SERVICES

BC Research Librarian : Mrs. Viona Esen.
Multi-interest, multi-model collection available to the scientific and business communities. Collection of 25,000 information items. No user restrictions.

PUBLICATIONS

Publications of the British Columbia Research Council. Available from BC Research Library, 3650 Wesbrook Mall, Vancouver, B.C. V6S 2L2.

3-085-R

BOREAL INSTITUTE FOR NORTHERN STUDIES UNIVERSITY OF ALBERTA (BINS)

Library

C.W. 401 Biological Sciences Building,
University of Alberta,
Edmonton, Alberta T6G 2E9
(403) 432-4409 - Telex: 037-2979

Mrs. Cooke, G.A. - Head Librarian

OBJECTIVES/FUNCTIONS

The acquisition and dissemination of knowledge of the North through development of a library and information centre, provision of training and instruction and implementation and encouragement of research.

ACTIVITIES

The Library provides "back-up" to the Institute's teaching and research by collecting and making available bibliographic and other material. It also serves as a publicly available information centre. Materials range from school level to highly scientific.

INFORMATION SOURCES AND SERVICES

Library collection - a small portion of the bibliographic, periodical and vertical file collections relates to marine transportation in the areas of ice engineering, oil spills, remote sensing.

Canadian Ice Distribution Survey - a collection of references from letters, newspapers, magazines covering all of Arctic Canada from 1951 - 1954. Prepared by the Department of Mines and Technical Surveys.

Boreal Northern Titles data base - an index of 650 titles of periodicals, goverment documents, northern newspapers. Access by title keyword and author surname (see publications). Available for on-line searching from Q.L.

All files available to outside researchers by personal visit. ILL service provided.

BOREAL (Library Catalogue).
See: bibliography B002.

Courses/Programs

Boreal Circle - six meetings of informal group, per year, October-March. Guest speakers invited. Open to the general public.

Details of educational activities available by writing to the Institute.

PUBLICATIONS

Occasional Publications. (Detailed in Publication List).

Boreal Newsletter. v. 1 - January/February 1974 - 1977. Temporarily suspended.

Northern Titles - see: bibliography...B003.

Library Bulletin. A list arranged by country, of all publications (old and new) catalogued each month by the Library. Also includes indexing entries received from Scott Polar Research Institute. $15.00 per year.

BINS Bibliographic Series. Produced using the Library's BOREAL database, which contains material catalogues since 1977. Each bibliography covers a different topic. No. 6, June 1984 issue was titled *Ice in the Beaufort Sea*. A list of titles is available upon request. $20.00 per year or $3.00 per issue.

Publications List available from the Institute.

C-CORE
(CENTRE FOR COLD OCEAN RESOURCES ENGINEERING)

Memorial University of Newfoundland,
St. John's, Newfoundland A1B 3X5
(709) 737-8354 - Telex: 016 4794

Nesbitt-Friis, Eleonor (709)-737-8139

OBJECTIVES/FUNCTIONS

To develop Canadian expertise in ocean engineering and to train people competent to work in a cold ocean environment.

To undertake research that will assist the safe and orderly development of Canada's resources in areas where cold and ice-frequented oceans are a problem.

ACTIVITIES

Research program include: development of CODAR (Coastal Ocean Dynamics Applications Radar) and its applications for current mapping and ice detection, modelling ice fracture/flexure failure, iceberg crystallography, wave ice interaction, mechanical properties of icebergs, marine geology of upper continental slopes off eastern Canada, iceberg grounding and scouring prediction study, Hibernia sediments program and iceberg fragmentation.

A Canadian Sea Ice Guide is in progress to be completed late summer 1985. It is an on-line database of field sea ice information. Includes numerical data and bibliographic information. A printed copy will serve as a reference list. Will be available to the public.

INFORMATION SOURCES AND SERVICES

C-CORE Data Base of C-CORE research programs.

Affiliated Library:

O.E.I.C. (Ocean Engineering Information Centre) - See : 3-095-R.

Conferences/Meetings

Conferences or workshops sponsored by C-CORE are announced well in advance in C-CORE News.

PUBLICATIONS

Annual Report.

C-CORE News - published 3 times a year; March, July and November, mailed free of charge to anyone who requests it. Contact Eleonor Nesbitt-Friis, Editor, to be placed on mailing list.

Technical, Data and *Cruise Reports, Conference Proceedings, Information Publications* and papers presented by C-CORE members to external meetings or submitted to other publications, usually are available from C-CORE. The availability of *Contract Reports* is noted individually.

The *Reports* and *Publications* are distributed free of charge to C-CORE's Associates.

A *Publication Series* is available each year. To cover postage and handling, $50.00 will be charged for the 1984 series.

Individual reports may be ordered. The postage and handling charge, in this case, is determined by the size of the report.

There is always a list of *C-CORE Reports* and *Publications* printed in *C-CORE News.*

3-087-R

CANADA'S CHANGING PORTS, UNIVERSITY OF TORONTO/ YORK UNIVERSITY JOINT PROGRAM IN TRANSPORTATION

Department of Geography,
York University,
4700 Keele Street,
Downsview, Ontario M3C 1Y2
(416) 667-3128

Prof. Merrens, H.P.

OBJECTIVES/FUNCTIONS

Canadian ports and harbours are currently experiencing the effects of a number of major changes. These changes are generating a series of problems, which stem from conflicting land-use pressures in areas traditionally preempted by uses reflecting trade, transportation and manufacturing priorities. The study employs an interdisciplinary team to analyze the causes and consequences of these changes: it identifies specific problems change in creating and suggests strategies for facing and resolving these problems. The ultimate goal is to assist in formulating policies for the management of ports and the use of waterfronts by providing a better understanding both of the processes themselves, and of the accompanying transportation and land-use changes.

ACTIVITIES

Individual projects integrated within the broad study framework include: trade dynamics - the Port of Toronto; the role of transport on Toronto's waterfront during the first half of the twentieth century; recreation in port areas; transport-related attitudes and behaviour in the Toronto harbour area - implications for urban design; seaport manufacturing - a reappraisal; jurisdictional frameworks and conflict resolution in port development.

PUBLICATIONS

Cunningham, Peter. *Canada's Changing Ports Scene: An Annotated Classified Bibliography*. Toronto: University of Toronto/York University Joint Program in Transportation, 1978. (Research Report 54). 92 pp. $4.75.

Gemmil, Arlene. *Toronto's Outer Harbour Eastern Headland: The Changing Role of a Transportation Facility*. Toronto: University of Toronto/York University Joint Program in Transportation, 1978. (Research Report 55). 86 pp and maps. $4.75.

Merrens, Roy. *Urban Waterfront Redevelopment in North America: An Annotated Bibliography*. University of Toronto/York Joint Program in Transportation, 1980. (Research Report 66). 104 pp. $10.00.

Freeman, D.B., P. Gray, S. Maniak and G. Menger. *The Decline of General Cargo Trade at the Port of Toronto: Patterns and Impacts of Change in Transport Technology and Industrial Economics*. University of Toronto/York University Joint Program in Transportation, 1981. (Research Report 78). 173 pp. $7.00.

Harrison, P., K. Beattie and C. Brassard. *The Exurbanization of Port Facilities: Location, Conditions and Relocation Problems*. University of Toronto/York University Joint Program in Transportation, 1981. (Research Report 81). 57 pp. $4.50.

Norcliffe, Glen. *Industrial Development in Canadian Ports*. University of Toronto/York University Joint Program in Transportation, 1982. (Research Report 86). 108 pp. $11.00.

Bryan, Ingrid A. *Shipping Conference Pricing Policies and Eastern Canada Ports*. York University Department of Geography Discussion Paper Series, No. 24. 33 pp. February 1980. $2.50

Schaeffer, Roy. *The Board of Trade and the Origins of the Toronto Harbour Commissioners, 1899-1911*. York University Department of Geography Discussion Paper Series, No. 27. 22 pp. September 1981. $2.50.

All of the above items are available in the Canadian Ports Collection in the Map Library of York

CANADA'S CHANGING PORTS, UNIVERSITY OF TORONTO/ YORK UNIVERSITY JOINT PROGRAM IN TRANSPORTATION

PUBLICATIONS (cont'd)

University. The first six items can be purchased from the Joint Program in Transportation, Osgoode Hall, York University, Downsview, Ontario M3J 1P3. The last two items can be purchased from the Graduate Program in Geography, York University, Downsview, Ontario M3J 1P3. For more information, contact R. Merrens at (416) 667-3218.

ADDITIONAL INFORMATION

See also 3-100-R about the Joint Program in Transportation.

3-088-R

Dalhousie University,
1236 Henry Street, 5th Floor,
Central Services Bldg.,
Halifax, Nova Scotia B3H 3J5
(902) 424-3876
Telex: 01921863 Answerback DALUNIVLIB HFX

CANADIAN MARINE TRANSPORTATION CENTRE (CMTC)

Professor Gratwick, John - Director

OBJECTIVES/FUNCTIONS

The Centre, founded August 1977, encourages an interdisciplinary approach to marine transportation problems, acting as a mechanism for bringing together university, government and private sector interests in the field. Within the University, the Centre engages in both research and educating programs. The teaching role is accomplished through elective courses in the Dalhousie Law School and School of Business Administration. Current research activities are chiefly in the areas of transport policy, ocean law, and shipping operations.

ACTIVITIES

Participation in Transport Canada management training programs; invitational seminars for the Marine Advisory Board; development of a Canadian transportation information framework; a detailed study of negotiation strategy for international maritime conventions; a study of international trade documentation issues; analysis of multimodal ownership; public lectures; private contract research.

INFORMATION SOURCES AND SERVICES

The library collection contains:

Textbooks, government and industry reports, statistical materials, research studies, transportation journals and audio-visual aids. Several holdings not available elsewhere in the Atlantic region.

Contact: Mary Dawson: (902) 424-3876.

Outside users may use files on the premises.

Courses/Programs

Courses offered through the School of Business Administration.

International Transportation

This course serves as an introduction to international transportation for graduate business students and, as such, class time is devoted to a wide variety of topics related to the international distribution of goods by marine, air and truck modes. These include supply of and demand for world shipping, and an overview of government incentives, industry organization, port policy, shipbuilding, and other support industries. The course includes field trips as well as traditional teaching methods.

Seminar in Ocean Transportation

The objective of this seminar is to build upon the common background acquired in the International Transportation course and to explore in depth a number of topical issues in ocean transportation. Each student is expected to enter the course with an, at least tentatively, identified research topic. Class time is devoted to guest speakers, seminar discussions of topical issues, and student presentations.

Domestic Transportation

This course examines the development of the transportation modes and national transportation policy in Canada. The characteristics and cost structures of the various modes (air, motor, pipeline, rail, and water) and the effect of such costs on the carriers' pricing decisions are studied.

Management of Transportation

This course will examine and analyse the organizational and management evolution of Canadian transportation enterprises. Management functions and styles will be compared between modes and with non-transportation companies.

CANADIAN MARINE TRANSPORTATION CENTRE (CMTC)

Courses/Programs (cont'd)

International Business and Ocean Resources

This is an interdisciplinary seminar which examines offshore exploration, exploitation of minerals, and the fishing industry as an international business enterprise. Guest speakers will be invited to address the seminar on their particular areas of expertise.

Physical Distribution Management

An introduction to the decision problems faced by the manager of a physical distribution system: to achieve the co-ordination of the channels of distribution, the transportation and storage of products, and the communications and data processing system, in order to minimize the total cost of these activities and satisfy the marketing requirements of the firm.

Channels of Distribution

This systems approach to Channels of Distribution Management explains the forces working on the Marketing Manager as he selects his channel of distribution. Concentration is on the management problems faced in the distribution of goods and services, as well as the channel alternatives available to the manager including vertical and contractual marketing systems.

Meetings/Lectures

In March 1984, the Centre sponsored a public lecture by Douglas Campbell, Director of Grain Business Planning for CN Rail. Entitled *Crow's Nest Pass Legislation - Its Significance for Atlantic Canada*, it addressed the potential benefits for the Atlantic Provinces arising from the legislation.

In October 1983, the Director gave the opening lecture at Transport Canada's Senior Transportation Management Program in Cornwall. This lecture covered the history and development of Canadian transportation and examined some of the current policy issues in transportation.

In April 1983, the Director presented the Canadian paper at the second invitational INTRA Conference in France. A small international group of specialists meet each year to examine a specific transportation topic; in 1983 it was *Employment in Transportation*.

Trade Show

In conjunction with three other institutes within the University (Dalhousie Ocean Studies Programme, Institute for Resource and Environmental Studies, and the Centre for International Business Studies), the Centre had a booth at the Atlantic Business and Industrial Show, held in Dartmouth in June, 1983.

PUBLICATIONS

Books:

Hanington, Felicity. *The Lady Boats; The Life and Times of Canada's West Indies Merchant Fleet*. 1980. 173 pp. (hard cover) $17.95.

Abrahamsson, Bernhard J. *International Ocean Shipping: Current Concepts and Principles*. Praeger Press, 1980. 232 pp. (hard cover) $32.00.

Patton, Donald J. Day, Graham J. Pullen, Gillian. *Canada East: Choices for Change, Proceedings of a Financial Post Conference*. 1978. 183 pp. (soft cover) $10.00.

MacKenzie, Charles H.C., Power, Michael E. and McDorman, Charles H.C. *Liner Shipping Conferences: An Annotated Bibliography*. Lexington Press, 1985.

CANADIAN MARINE TRANSPORTATION CENTRE (CMTC)

PUBLICATIONS (cont'd)
Research Report Series:

No. 1 *The Ports of Halifax, Montreal and Saint John: A Comparison of Export Trade.* Dr. Ian Fenwick and Dr. R.W. Sweitzer, 1978. 105 pp. (soft cover) $10.00.

No. 2 *Canadian Marine Transportation Centre Survey of Nova Scotia Importers and Exporters.* Karen E. MacKinnon, 1979. 295 pp. (soft cover) $25.00.

No. 3 *The Economic Impact of the Port of Halifax.* Dr. T. Pinfold, 1980. 106 pp. (soft cover) $10.00.

No. 4 *A Comparison and Analysis of 1978 Export-Import Container Traffic Through the Ports of Halifax and Montreal.* Karen E. MacKinnon, 1980. 165 pp. (soft cover) $15.00.

No. 5 *Technological Change in the Shipping Industry: the Coming two Decades.* Mary R. Brooks, 1982. 173 pp. (soft cover) $15.00.

No. 6 *Liner Shipping Conferences: An Annotated Bibliography of Selected Economic, Commercial, and Government Materials.* Charles H.C. MacKenzie, Michael E. Power, 1982. 180 pp. (soft cover) $15.00.

No. 7 *The Nature and Operation of Liner Shipping Conferences in a Canadian Context.* Mary R. Brooks et al, 1983. 142 pp. (soft cover) $15.00.

No. 8 *Container Traffic Through East Coast Canadian Ports.* Mary Brooks et al, 1983. 66 pp. (soft cover) $15.00.

Graduate Student Research Reports:

An Inquiry into the Canadian Shipbuilding Industry: The Facilities, Subsidies and Future. C.S.M. Shepherd, 1983. 87 pp. (soft cover) $10.00.

The Development of Shipping Law and Policy in Canada: An Historical Examination of the British Influence. Ted L. McDorman, 1982. 221 pp. (LL.M. Thesis) (soft cover) $15.00.

A Review of and Prospects for the Domestic Transportation of Canadian Grain for Export. Kimberly Myles, 1982. 148 pp. (soft cover) $10.00.

Factors Affecting Overseas Shipments of Prince Edward Island Potatoes. Patricia Rossiter, 1982. 34 pp. (soft cover) $5.00.

The Inter-Governmental Maritime Consultative Organization: An Overview. Ted L. McDocman, 1981. 38 pp. (soft cover) $5.00.

The Marine Engine Industry. Douglas B. Raymond, 1981. 92 pp. (soft cover) $10.00.

Shipping Conferences in Canada. Saskia Schott, 1980. 63 pp. (soft cover) $5.00.

Nova Scotia Containerized Exports and Imports: An Analysis of Traffic Through the Port of Halifax for 1978. C.H.C. MacKenzie, 1980. 93 pp. (soft cover) $10.00.

Containerized Exports From the Port of Halifax for April, May 1976, 1977, 1978. George Seslija, 1979. 173 pp. (soft cover) $10.00.

Working Paper Series:

An Overview of the International Shipping Industry From a Containerization Vantage Point. Mary R. Brooks, Stephen Kavanagh, Karen E. MacKinnon, 1982. 172 pp. (soft cover) $5.00.

COLLEGE OF FISHERIES, NAVIGATION, MARINE ENGINEERING AND ELECTRONICS

P.O. Box 4920,
St. John's, Newfoundland A1C 5R3
(709) 726-5272 - Telex: 065-25169

Farmers, Mabel - Librarian

OBJECTIVES/FUNCTIONS

The College was established to provide trained manpower for the fishing and allied marine industries. It provides technical and vocational training and conducts research in fisheries, navigation, marine engineering, electronics and any other discipline relating to principal aspects of the marine and fishing industries including naval architecture, shipbuilding and food technology. The Library provides background and supplementary reading on all subjects taught at the College.

ACTIVITIES

Teaching and research in the fields of fisheries, navigation, marine engineering, electronics, and food technology.

INFORMATION SOURCES AND SERVICES

Library consists of about 20,000 items including 500 periodical titles. The audio-visual collection includes films, film strips, slides, records, models.

Marine related (library collection) include:

i) *Canadian Coast Guard - Report of Investigations* - ship disasters.

ii) Notices to Mariners.

iii) *Canada Shipping Act*, regulations and amendments.

iv) *Pilot Charts* - Atlantic.

Library services intended for college population. Outside enquiries judged on merits. ILL service provided.

Mabel Farmer, librarian. (709) 726-5272 ext. 214.

Continuing education activities:

Beyond the regular programs the College offers extension programs such as short field courses, seminars/workshops and evening programs related to marine technology.

PUBLICATIONS

Calendar. Annual.

Acquisition List. Monthly in house publication.

Audiovisuals catalogue.

ADDITIONAL INFORMATION

The College operates its own training ship the *M.V. Beinir* to give students practical experience in navigation, marine engineering, electronics and general fisheries training. The ship is equipped with Decca Navigator, radar Loran, echo sounders and electronic fish detection devices.

The College is going to move to a new location in the near future and be renamed **Newfoundland and Labrador Institute of Fisheries and Marine Technology**, commonly referred to the "Marine Institute".

3-090-R

Dalhousie University,
1236 Henry Street, 5th Floor,
Central Services Bldg.,
Halifax, N.S. B3H 3J5
(902) 424-6557 - Telex 01-921863
Rolston, Susan - Research Associate

DALHOUSIE OCEAN STUDIES PROGRAMME (DOSP)

OBJECTIVES/FUNCTIONS

"...to establish a major research and training programme in ocean law, policy and management at Dalhousie. The Program will draw together key personnel in the fields of ocean law and policy, marine transportation and international business, ocean resources management and coastal community development. It will be complementary to the established activities in oceanography at Dalhousie and the Bedford Institute, and to a variety of research programs in ocean technology in the region."

ACTIVITIES

The programme conducts research in twelve projects under the umbrella heading *"New Directions in Ocean Law, Policy and Management"*.

Each project is envisaged as a self-contained research effort under the general direction of one or more of the directors and involving a team comprised of senior specialists (visiting fellows and research associates) and more junior members (research assistants and student assistants). Every project will have interlocking themes with several others, and each is viewed as contributory to more general themes in addition to standing on its own.

Projects include:

"The economical zone: a comprehensive study of national policy and legislation".

"Law, policy and the continental shelf of Eastern Canada: analysis and appraisal of current trends".

"Marine pollution: legal regulation of ship-generated pollution through treaty arrangement and national legislation".

"Policy for ocean resource management unit: analysis of the Bay of Fundy - Gulf of Maine ecological systems".

"New directions in the literature of ocean studies: impacts on information sciences".

"Maritime boundary delimitations: theory, doctrine and diplomatic practice".

"The Carribean: selected marine law and policy issues".

"West Africa: selected marine law and policy issues".

"Extended jurisdictions and the challenge for rural coastal community development".

"New directions in offshore business".

"Convergence and divergence in ocean law, policy and management".

Additional research has been conducted on regional ocean management in Southeast Asia, including an examination of measures to control vessel source pollution in the region.

A four year project entitled the *"Canadian Northern Waters Project"*, funded by the Canadian Donner Foundation, focuses on the problems of transit management in the Canadian Northwest Passage with a view to providing independent analysis and evaluation of the problem of designing and instituting an effective system of transit management in the Passage and adjacent waters in the 1980s and 1990s for any cargo, by any means.

PUBLICATIONS

New Directions in Ocean Law, Policy and Management - A biannual newsletter. No charge.

M. Valencia, et. al, eds. *Shipping, Energy and Environment: Southeast Asian Perspectives for the Eighties*. Halifax: DOSP, 1982. $25.00.

DALHOUSIE OCEAN STUDIES PROGRAMME (DOSP)

PUBLICATIONS (cont'd)

D. Johnston, et. al. eds. *International Symposium on the New Law of the Sea in Southeast Asia*. Halifax: DOSP, 1982. $25.00.

H. Kindred, et. al. eds. *The future of Canadian Carriage of Goods by Water Law*. Halifax: DOSP, 1982. $18.00.

C. Mitchell and E. Gold. *Fisheries Development in Dominica: An Assessment of the New Law of the Sea Implications and Strategies*. Halifax: DOSP. $7.00.

C. Mitchell and E. Gold. *The Integration of Marine Space in National Development Strategies of Small Island States: The Case of the Carribean States of Grenada and St. Lucia*. Halifax: DOSP, 1982. $25.00.

E. Gold, N. Letalik and C. Mitchell, eds. *Problems of Development and Ocean Management in the Eastern Carribean: Economic, Legal, and Environmental and Planning Aspects*. Halifax: DOSP, 1982. $20.00.

C. Lawson and A. Hanson, eds. *Atlantic Fisheries and Coastal Communities: Fisheries Decision-Making Case Studies*. Halifax: DOSP, 1984.

Available through Institute for Resource and Environmental Studies, 1312 Robie Street, Halifax, N.S. B3H 3E2 $18.50 prepaid.

Marine Affairs Bibliography: A comprehensive Index to Marine Law and Policy Literature. Compiled and edited by C.L. Wiktor and L.A. Foster. Quarterly, Annual subscription: $95.00 in Canada U.S. $95.00 outside Canada.

Available through Dalhousie Law School, Halifax, N.S. B3H 4H9.

T. McDorman, K. Beauchamp and D. Johnston. *Maritime Boundary Delimitation: An Annotated Bibliography*. Lexington, Mass: Lexington Books, 1982.

Available from Lexington Books, 125 Spring Street, Lexington, MA. U.S.A. 02173 at U.S. $24.95.

Conferences/Meetings

"A program of workshops and conferences will add to the experience necessary for the review of specific research themes."

3-091-R

DALHOUSIE UNIVERSITY DEPARTMENT OF OCEANOGRAPHY

Dalhousie University,
Halifax, N.S. B3H 4J1
(902) 424-3557 - Telex: 019-21863

Prof. Bowen, A.J. - Chairman

OBJECTIVES/FUNCTIONS

Teaching and research. The department has fifteen faculty members, about an equal number of post-doctoral fellows and research associates, about fifty graduate students. It grants MSc and PhD degrees in the major sub- disciplines of the field of Oceanography. Active research programmes carried on by all faculty members and their staff and students.

INFORMATION SOURCES AND SERVICES

Dalhousie University library system.
W. Birdsall, Chief Librarian.

PUBLICATIONS

Biennual Report. Contains publication lists for all members of the department.

DALHOUSIE UNIVERSITY FACULTY OF LAW
Marine and Environmental Law Programme (MELP)

Dalhousie University,
Halifax, Nova Scotia B3H 4H9
(902) 424-5100
Johnston, D.M. - Director

OBJECTIVES/FUNCTIONS

In 1973 the Faculty of Law designated "marine and environmental law" as its area of special emphasis for purposes of development. To implement this decision, the Marine and Environmental Law Programme was established under the directorship and Professor Douglas M. Johnston. Since then, development in the designated area has been reflected the addition of several new optional courses available to second and third year students. To provide these offerings, either on an annual or alternating basis, additional faculty members were recruited and Professor Edgar Gold accepted special responsibility for development of admiralty law.

ACTIVITIES

In recent years, Dalhousie's prominence in the designated area has attracted a growing number of graduate students from around the world to undertake supervised thesis work in such subjects as law of the sea, admiralty law, and environmental law, and has led to a considerable growth of conference activities in the same field. For LL.B., LL.M., and J.S.D. candidates arrangement have been made to facilitate access to Dalhousie courses and research projects outside the Law School, in association with the Institute for Resource and Environmental Studies, the Centre for International Business Studies and the Canadian Marine Transportation Centre (see 3-088-R). In 1979 a major grant was awarded to Dalhousie for the initiation of a five-year research program in *Directions in Ocean Law, Policy and Management* (see Dalhousie Ocean Studies Program, 3-090-R).

Since then a variety of other projects have been founded by other sources, several of them involving research in marine pollution, transit management and other shipping related matters.

INFORMATION SOURCES AND SERVICES

The Sir James Dunn Law Library has built a comprehensive collection in the designated area of marine and environmental law (as part of its more than 125,000 volume library). This specialized area of the collection contains over 3000 titles in the following categories:

Admiralty law (treatises and legislation, including foreign language publications; treatises in law related areas, conference papers and other documents).

Law of the sea (legal treatises, going back to late XIX century, including foreign language publications; treatises in law related areas, conference papers and other documents).

Specific areas of ocean management (living and non-living resources, legal and related to law, such as fishing management, offshore petroleum development, preservation of ocean environment, etc.).

Coastal zone management (legal and institutional developments in the U.S., and in national and international jurisdictions - includes legal treatises, legislations, conference papers and other documents).

Comparative marine policy studies (treatises, periodicals, conference papers and other documents).

Conferences/Meetings

MELP has cosponsored a number of conferences with the Public Services Committee of the Faculty of Law and other institutions. For example in 1976 it held a conference on offshore developments in Atlantic Canada, with special reference to commercial and legal aspects, and in 1976, 1978, 1980 and 1984 it assisted in the organization of four

DALHOUSIE UNIVERSITY
FACULTY OF LAW

Conferences/Meetings (cont'd)

international conferences in the field of admiralty law. In 1979 it helped to organize a national conference on water and environmental law. The proceedings of all of these conferences are available for purchase.

Courses/Programs

Courses available are listed and described in *Course Selection Materials - Academic Year 1985-1986*; prepared by the Faculty of Law. Dalhousie University.

PUBLICATIONS

New Directions in Maritime Law. 1976 - . Conference proceedings.
See: B-099.

GREAT LAKES SCHOOL OF MARINE TECHNOLOGY (G.L.S.M.T.)

1150 8th Street East,
Owen Sound, Ontario N4K 4R4
(519) 376-0682

Walker, Trevor - Chairman

OBJECTIVES/FUNCTIONS

The school was established to provide trained officers for the Canadian shipping industry and allied marine industries. It provides technical and vocational training in navigation and engineering to post secondary (cooperative) students and requiring marine certification at upper levels. Other aspects of marine training and research involves ship building, engine fitting and marine electronics.

ACTIVITIES

Research projects involve building and testing of marine prototypes for industry.

Education for marine officers aboard Canadian ships and rigs.

Maintenance training in our Marine Power Systems lab and operational troubleshooting.

Simulator training for engineers and navigation officer.

INFORMATION SOURCES AND SERVICES

The **Learning Resources Centre** includes a collection of approximately 1000 items relating to marine engineering and navigation technology. This collection includes monographs, audio-visual programs, journals, technical reports, various map and charts and vertical files.

The files are available to be used, free of charge, by outside researchers during personal visits, however, reproduction and distribution will incur a charge of 10 cents/page (with a minimum charge of $2.00/article) plus postage.

PUBLICATIONS

Calendar.

Various brochures.

A.V. presentation on cadet training program (video).

ICE MECHANICS LABORATORY DEPT. OF CIVIL ENGINEERING LAVAL UNIVERSITY

Laval University
St. Foy, Quebec G1K 7P4
(418) 656-2205

Mr. Michel, B.

OBJECTIVES/FUNCTIONS

The laboratory performs research in the mechanics of floating ice.

ACTIVITIES

The laboratory deals with the interaction of ice with offshore structures and ships.

INFORMATION SOURCES AND SERVICES

The Department holds files on information pertaining to navigation in ice or harbours in ice but these files are not accessible to the public.

Courses/Programs

A course is given in *Ice Mechanics* over one semester and *Hydraulics of Ice-covered Waters* over one semester at the graduate level.

OCEAN ENGINEERING INFORMATION CENTRE MEMORIAL UNIVERSITY (OEIC)

Memorial University of Newfoundland
St. John's, Newfoundland A1B 3X5
(709) 737-8377

Whittick, Judith - Librarian

OBJECTIVES/FUNCTIONS

OEIC is sponsored by the Ocean Engineering Group, Memorial University, Faculty of Engineering and Applied Science and C-CORE. Its principal role is to provide an information search service to members of the sponsoring groups in the subject field of cold ocean engineering.

ACTIVITIES

Collection development.

Provision of search service.

INFORMATION SOURCES AND SERVICES

The collection includes about 140 periodical titles for the last ten years in the areas of sea ice, icebergs, remote sensing.

A strong collection of international technical reports.

About 19,000 items from 1974 to date in the *KWOC Index*; items chiefly in the areas of sea ice research and offshore hydrocarbon development; *KWOC Index* updated regularly.

Collection of ice-condition maps from Ice Forecasting Central, U.S. Navy; weather charts from AES; charts of sea states (METOC); remote sensing imagery ISISFICHE.

Search service to sponsoring groups, to outside researchers on a contract basis.

Most material available on one week loan to the local ocean engineering community.

Selective ILL.

PUBLICATIONS

OEIC KWOC Index - see : B-013.

Acquisition List. Monthly to exchange groups. Also available on annual subscription basis at $200.00.

3-095a-R

OCEAN ENGINEERING RESEARCH GROUP MEMORIAL UNIVERSITY FACULTY OF ENGINEERING AND APPLIED SCIENCE

Memorial University of Newfoundland
St. John's, Newfoundland A1X 3X5
(709) 737-8805 - Telex: 016-4101

Muggeridge, D.B. - Chairman
Milne,W.J. (737-8971)

OBJECTIVES/FUNCTIONS

"The Ocean Engineering Group has a present strength of 31 full-time professors drawn from the Civil, Electrical, Mechanical, Shipbuilding and Applied Mathematics disciplines of the Faculty of Engineering and Applied Science at Memorial University. Members of the group have research interests in ocean-related problems allied to their discipline of specialization."

ACTIVITIES

Ongoing research areas:

Geotechnology.

Acoustics, communication and telemetry.

Hydrodynamics.

Ice and icebergs.

Ocean structures.

Engineering and economic impact studies.

INFORMATION SOURCES AND SERVICES

Ocean Engineering Information Centre.
See : 3-095-R.

PUBLICATIONS

Ocean Engineering Group Work in Progress. 1984.

List of Publications available from Dr. D.B. Muggeridge, chairman.

ADDITIONAL INFORMATION

The faculty has a 60m wave/tow tank and a tow carriage.

3-096-R

265 W. Esplanade,
North Vancouver, B.C. V7M 1A5
(604) 985-0622

Hughes, D. - Principal

PACIFIC MARINE TRAINING INSTITUTE (PMTI)

OBJECTIVES/FUNCTIONS

To provide training in nautical and marine engineering subjects and emergency procedures for commercial seafarers and those who wish to take up a seafaring career.

ACTIVITIES

Preparation of candidates for all Department of Transport marine certification examinations.

Offer courses in lifeboat, survival and firefighting techniques.

Provide the academic portion of West Coast and Beaufort Sea marine engineering apprenticeship scheme.

Offer courses in marine radar operation and radar navigation techniques.

INFORMATION SOURCES AND SERVICES

Mrs. K. Look, librarian.

Accessibility restricted to registered students, students in marine programs in other B.C. educational institutions.

Special cases considered separately.

ADDITIONAL INFORMATION

All enquiries concerning courses: Registration Office .

Administrative matters: Principal or Vice-Principal.

3-097-R

P.O. Box 700,
Morrisburg, Ontario K0C 1X0
(613) 543-3731

SEAFARERS' TRAINING INSTITUTE (S.T.I.)

Beaulieu, Gerry R. - Administrator

OBJECTIVES/FUNCTIONS

Marine training facilities for employees of shipping companies under contract with "Seafarers' International Union of Canada". Basic and upgrading courses for galley, deck and engine departments. Approved course by Canadian Coast Guard to train and examine for M.E.D.II tickets. Participation is restricted to Seafarers' International Union of Canada members.

INFORMATION SOURCES AND SERVICES

Consists of mostly donations and related to marine industry.

Use of material is restricted to course participants.

UNIVERSITY OF BRITISH COLUMBIA CENTRE FOR TRANSPORTATION STUDIES

University of British Columbia,
1924 West Mall,
Vancouver, B.C. V6T 1W5
(604) 228-4510 - Telex: 04-51233

Heaver, Trevor D. - Director

OBJECTIVES/FUNCTIONS

The promotion of transportation research and teaching, the encouragement of interaction between faculties to this end and the dissemination of information through publication and programmes.

ACTIVITIES

Research projects involve work in international and domestic issues including: conference shipping economics and policy; ships' costs and the performance of charter rates; tanker pollution; port planning development and management; national flag shipping; and coastal shipping.

INFORMATION SOURCES AND SERVICES

The Centre includes a small reading room collection of transportation books and materials. Backup files of research projects are usually kept by individual researchers. The reading room is open to outside researchers.

Contact: Betty J. Perry, Business Manager, (604) 228-6707.

Conferences/Meetings

The Centre sponsors occasional conferences and short continuing education programs. These are advertised by direct mailing and by notices in the press. Persons wishing to be placed on the Centre's mailing list are invited to write to the Centre.

PUBLICATIONS

The Logistics and Transportation Review. Quarterly, $28.00 per year, (Canada) $35.00 per year (U.S. and overseas.).

Oil Pollution from Tanker Operations - Causes, Costs, Controls. Waters II, W.G. Heaver, T.D. and Verrier, T. $22.00.

National Flag Shipping, An Analysis of Canadian Policy. Proposals. Heaver, Trevor D. $15.00.

Canada's Ports and Waterborne Trade. Ruppenthal, Karl M. $24.00.

Export Coal Logistics - Management, Models and Moving Coal. Waters II, W.G. and Uyeno, Dean H. $28.00.

Models Relating to the Logistics and Coal. Uyeno, Dean H., Andreas Wises, Dan E. Lane, and Waters II, W.G. $46.00.

3-099-R

413 Agriculture Bldg.
Winnipeg, Manitoba R3T 2N2
(204) 474-9801

Tyrchniewicz, E.W. - Director

UNIVERSITY OF MANITOBA

TRANSPORTATION INSTITUTE

OBJECTIVES/FUNCTIONS

Encourage and support basic and applied research in transport to meet the needs of the transport industry, policy workers and users of transport services.

ACTIVITIES

The activities of the Centre for Transportation Studies have been incorporated into the new Transport Institute. For the initial phase of the Institute's research programs the following areas are high priority: grain transport, system analysis in transport, transport in northern and other remote areas, implications of transport deregulation, the role of transport in economic development and transport instrumentation.

INFORMATION SOURCES AND SERVICES

A major effort will be made to develop a transport documentation center as part of the Institute in cooperation with the University's other departments and the library. The Institute will also have a publication program.

Courses/Programs

A key activity of the Institute will be the development of short courses and workshops, as well as the sponsoring of seminars and lectures on various transport issues.

UNIVERSITY OF TORONTO/ YORK UNIVERSITY JOINT PROGRAM IN TRANSPORTATION

42 St. George St.,
Toronto, Ontario M5S 2E4
(416) 978-7282
Riendeau, Catherine - Editor

OBJECTIVES/FUNCTIONS

The Joint Program in Transportation is a co-operative effort of the University of Toronto and York University established in 1970 as the agency for the coordination, promotion, and conduct of transportation activities at the two universities.

The principal objectives of the Joint Program are:

- to encourage research relevant to improved transportation in Canada through the influence of research findings on investment planning, policy development, operations, and development of human resources and expertise
- to serve government and the transportation industry as a source of information, expertise and special purpose training programs
- to provide an environment within the two universities that is conducive to high quality teaching and research in the transportation field
- to assist both universities in coordinating teaching programs in the transportation field
- to be self-financing and return a reasonable contribution to university overhead.

ACTIVITIES (marine related)

A major project was completed dealing with vessel costs on the Great Lakes, which included development of a cost model that can be used to estimate the effect of Seaway tolls and iron ore backhauls on rates for the movement of grain. Another project completed during 1983-84 concerned the impact of technological change and deregulation on intermodal competition.

Current research in progress:
Pricing Strategies for St. Lawrence Seaway/ Welland Canal: An Economic Analysis of User Charges. The purpose of this study is to examine the key issues involving user charges on the Great Lakes-Seaway system and to address these from an economic standpoint. Essentially, the current pricing strategy of the Seaway Authority will be examined with respect to its economic efficiency and, based on this analysis, alternate strategies will be developed and assessed. Specifically, efforts will be directed at:

- analyzing major Seaway traffic flows and their origin/destination patterns using CIGGT freight data
- analyzing current user charges in relation to delivery values and transportation costs
- investigating the characteristics of competing routes/modes
- assessing the financial position of the Seaway Authority
- analyzing the cost structure of the Seaway Authority
- developing alternative cost-based pricing schemes
- assessing the impact of these pricing schemes on the commercial viability of the Seaway Authority, the Great Lakes shipping industry, and Seaway/Welland Canal traffic.

Sponsor: Transport Canada.

Adil Cubukgil and Peter Yee, Joint Program in Transportation; Sandford Borins, Faculty of Administrative Studies, York University.

An Investigation of the Importance of Fleet Size in Improving the Utilization of Canadian Dry-bulk Vessels on the Great Lakes (completed). The study used linear programming to determine the opti-

UNIVERSITY OF TORONTO/ YORK UNIVERSITY JOINT PROGRAM IN TRANSPORTATION

ACTIVITIES (marine related) (cont'd)

mal allocation of the fleet of Canadian dry-bulk Great Lakes vessels to the various loading ports so as to minimize the fleet's total empty sailing time. Empirical data, as to vessel movements for one navigation season, will be used to determine the ratio of actual total empty sailing time to the corresponding total optimal time for individual vessels and for groups of vessels. Investigations will first be made as to the extent to which such factors as the seasonability of movement for certain commodities affect these ratios. Further investigations will be made as to how these ratios for a fleet increase or decrease as the number of vessels in a fleet increase. These findings will indicate the extent to which operating efficiencies might be expected if fleets were merged or, at least, if several fleets could be dispatched together.

Sponsor: Transport Canada.

Gordon C. Shaw and Wade D. Cook, Faculty of Administrative Studies, York University.

Bulk Traffic Patterns in the Great Lakes/Seaway Region: A Commodity Flow Analysis 1974-1981 (completed). The purpose of this report is to examine volume and mode share trends associated with Great Lakes/Seaway traffic. On the basis of multi-commodity, multi-modal data, flows have been generated for eight bulk commodities: wheat and other grain, iron ore, coal, gypsum, sand and gravel, salt, and potash. For the most part, these flows represent important traffic movements through the Great Lakes/Seaway and, hence, are crucial to any examination of traffic trends in this region.

Sponsor: Joint Program in Transportation.

Susan Houghton-Fenton, Research Associate, Joint Program in Transportation.

An Investigation of New Factors Affecting the Movement of Export Dry- Bulk Cargoes on the Great Lakes and their Effect on Vessel Requirements. This study will investigate the factors, in some detail, which affect the volumes of the principal commodities carried out by the Canadian dry-bulk vessels on the Great Lakes. Special attention will be paid to United States export grain, export coal and iron ore cargoes and especially to the effect caused by the deregulation of United States railroads. Forecasts will be made of the tonnages to be expected in 1990 and 2000 and these tonnages will be used to produce corresponding forecasts of vessel requirements.

Sponsor: Transport Canada.

Gordon C. Shaw, Faculty of Administrative Studies, York University and Peter Yee, Research Fellow, Joint Program in Transportation.

Estimation of Lake Vessel Costs for Export Grain. The Great Lakes/St. Lawrence Seaway plays a strategic role in the transport of Prairie grain to export markets. The study analysis the effect of the crow rate reform on grain transportation, by focusing on the development of a vessel costing model for typical grain lake vessel on the Great Lakes/St. Lawrence Seaway. This could help in the analysis of grain transportation issues in general, and the role of lake vessels as a competitive grain transportation mode in particular. The purpose of the proposed study, therefore, is to develop a costing procedure for estimating vessel costs and to compile the necessary data to estimate future grain transport costs from Thunder Bay to the Lower St. Lawrence River ports.

To accomplish the objectives set out by the study, the work program will include some of the following tasks:

a) development of a conceptual vessel costing model

UNIVERSITY OF TORONTO/ YORK UNIVERSITY JOINT PROGRAM IN TRANSPORTATION

ACTIVITIES (marine related) (cont'd)

(b) model calibration and estimation of future grain transport costs,
c) computerization of the vessel costing model, and
d) report preparation.

Sponsor: Canadian Transport Commission.

Peter Yee, Research Fellow, Joint Program in Transportation with contributions from Adil Cubukgil, Joint Program in Transportation and Gordon Shaw, Administrative Studies, York University.

Port Location on the Canadian Arctic Coast - A Review of Selected Siting Techniques (completed). In this study, it is the first proposed to examine the "state-of-the-art" regarding site selection techniques forenergy facilities. Second, the specific issue of portlocation to support Beaufort Sea offshore operations will beaddressed. A comparative analysis will be undertaken of the applicability of certain multi-criteria techniques foridentifying appropriate sites for shore-based facilities. In addition to considering the natural and sociocultural environments, due regard will be paid to the prevailing administrative and regulatory context. An assessment will thus be made of the ability of the selected processes to deal adequately with diverse social, political, economic and environmental factors.
Nigel Tucker, Department of Geography, York University.

PUBLICATIONS

The Decline of General Cargo Trade at the Port of Toronto: Patterns and Impacts of Change in Transport Technology and Industrial Economics. $7.00. Freeman, D.B. Gray P., Maniak S. and Menger G., Department of Geography, York University, September 1981. 173 pp.

The Exurbanization of Port Facilities: Location, Conditions and Relocation Problems. $4.50. Harrison, P. Department of Geography, University of Ottawa, Beattie, K. Researcher, Lands Directorate, Environment Canada, and Brassard, C. Graduate Student, Department of Geography, University of Ottawa, September 1981. 57 pp.

A Forecast of the Canadian Dry Bulk Vessel Requirements on the Great Lakes in 1990. $13.50. Shaw G.C. and Cook, W.D. Faculty of Administrative Studies, York University, March 1982. 184 pp.

Industrial Development in Canadian Ports. $11.00. G. Norcliffe, Dept. of Geography, York University, September 1982. 108 pp.

Port Manufacturing: A Study of Hamilton's Bayfront Industrial Area. Scott Ferguson, York University, January 1984.

Metropolitan Vancouver: Industrial Decentralization and Port Activity on the Lower Fraser River. $6.00. James E. Randall (graduate student), Geography Dept., York University, 1983, 1981. 44pp.

Newsletter. Issued January, May, September. Free.
Annual Report.
Course List.

Conferences/Courses

The Joint Program has compiled a list of all courses in transportation at the University of Toronto and York University. This list is available from the Joint Program at no cost. It may or may not contain courses which are marine related.

From time to time the Joint Program offers seminars.

A marine related seminar was held December 1983: *Development of a Research Strategy for Great Lakes Shipping.* Peter Yee, Research Fellow. Joint Program in Transportation.

Building 7A
University of Alberta Campus
Edmonton, Alberta T6G 2E2
(403) 432-5108 - Telex: 037 2966

Adams, Peter - President
Clarke, Liz - Information Officer

CENTRE FOR FRONTIER ENGINEERING RESEARCH (C-FER)

OBJECTIVES/FUNCTIONS

C-FER was established in late 1983 with major funding from the Devonian Group of Charitable Foundations, the Governments of Alberta and Canada, the University of Alberta and the private sector. An incorporated, non-profit research centre, C-FER was set up to address those problems specifically related to materials, design and construction of facilities used in the development of Canada's frontier petroleum resources (both technological frontiers and geographical frontiers).

ACTIVITIES

Two major research programs are currently underway: **Steel Structures for the Arctic**, aimed at the development of a rational design procedure for steels to be used in low temperature environments; and **Downhole Tubular Products**, focussed on an investigation of drill pipe, casing and production tubing for deep well and enhanced recovery environments. In addition to these major programs, C-FER is involved in monitoring the development of innovative concepts and systems specially required for structures in the Beaufort Sea and Atlantic areas.

INFORMATION SOURCES AND SERVICES

In addition to its major research initiatives, C-FER has undertaken a major Networking project through which the Centre acts as a link, facilitating dialogue among industry, government and university communities. Workshops, seminars, information services and regular personal contacts with Canada's broad energy industry are an integral, on-going part of C- FER's operation.

A variety of information services will become an increasingly important part of C-FER's mandate as its highly specialized collection of technical data develops.

PUBLICATIONS

Networker. Monthly.

Frontiers. Quarterly. V. 1, 1985.

ADDITIONAL INFORMATION

C-FER and the Technical University of Nova Scotia have agreed to the formation of a joint research and networking initiative to be housed on the University Campus in Halifax, Nova Scotia. *C-FER Atlantic* will officially open on September 1, 1985. Mr. G. Ewing has been named to direct the East-Coast operation.

Organizational Sources

Commercial Enterprises

ACRES CONSULTING SERVICES LIMITED
TRANSPORTATION DIVISION

480 University Avenue,
Toronto, Ontario M5G 1V2
(416) 595-2000 - Telex: 06-217815

Sampson, David
Head, Transportation Group

OBJECTIVES/FUNCTIONS

Acres is a Canadian consulting engineering company primarily involved with all aspects of civil engineering, plus extensive capability in the environmental and economic disciplines. The company maintains a large hydraulic laboratory in Niagara Falls.

ACTIVITIES

Marine projects include:

Design and construction management of the container terminals in Saint John, and Halifax and other marine terminals in Vancouver, the Great Lakes and overseas. Shipyard planning, engineering and construction management services required for expansion of Saint John Shipbuilding and Dry Dock Company Ltd and shipyards in Halifax and Vancouver. Ice engineering and management projects for numerous offshore projects in eastern Canada and the Canadian and U.S. arctic areas. Cost/benefit study for coastal passenger and freight transportation in Newfoundland and Labrador, forecasts of bulk cargo for the Canadian and U.S. St. Lawrence Seaway authorities and marine operation assignments for government and industry. Marine environmental assessments including marine weather forecasting projects, analysis of sand transport and oil spill detection beneath ice. Acres hydraulics laboratories are used for marine projects.

INFORMATION SOURCES AND SERVICES

Material collected for projects for clients are kept confidential. Final reports are deposited in Acres library(s).

Acres library in the Toronto office holds TRB, CTC publications and charts produced by the Canadian Hydrographic Service of various coastal areas. Access is by appointment only. Librarian: Ern Dick.

The library in the Niagara Falls office holds CHS charts as well as proceedings of the Offshore Technology Conferences and documents of the Permanent International Association of Navigation Congresses. Collection emphasis is on terminals and ice management, ice navigation, ice pressures on structures. Apply to Ann McKay (416) 354-3831. Acres Consulting Services Ltd, 5259 Dorchester Road, P.O.B. 1001, Niagara Falls, Ontario L2E 6W1.

PUBLICATIONS

List of Technical Papers published from 1981 to date.

Transportation and Deposition of Oil and Gas Spills under Sea Ice. Cammaert et al., 4th Annual AMOP Seminar Edmonton, June 1981.

Impact of Large Ice Floes and Icebergs on Marine Structures. Cammaert,Tsinker., POAC /81 6th International Conference Vol II, July 1981.

Grain-Trade Transportation and Handling. Wright, 1st International Grain Trade Transportation and Handling Conference, London, June 1982.

Movement of Oil and Gas Spills Under Sea Ice. Cammaert et al., 6th International POAC Conference, Quebec, July 1982.

Coal-Trade Transportation and Handling. Wright, 2nd International Coal Trade Transportation and Handling Conference, Paris, October 1982.

Modernization and Upgrading of the Dock and Associated Facilities at Iquitos, Peru. Tsinker, Tanner, Delgado. Proceedings of the Speciality Conference on Port Modernization, ASCE, New Orleans, LA. March 1983.

ACRES CONSULTING SERVICES LIMITED
TRANSPORTATION DIVISION

PUBLICATIONS (cont'd)

Determination of the Technical and Economic Viability of Year-Round Access into Lake Melville. Wright, Mulcany., April 1983.

Impact of Icebergs on Offshore Gravity and Floating Platforms. Cammaert, Curtis, Wong., 7th International Conference on Port and Ocean Engineering under Arctic Conditions, Helsinki, April 1983.

Design of Ice Management System for Arctic LNG Dock. Tsinker, Tanner, Cammaert., Proceedings of 7th International Conference POAC, Helsinki, April 1983.

Anchored Sheet Pile Bulkheads: Design Practice. Tsinker., Journal of Geotechnical Engineering Division, ASCE, August 1983.

Numerical Analysis of Impact of Small Icebergs on Semi-submersibles. Curtis, Cammaert, Wong and Bobby, 3rd International Cold Regions Engineering Speciality Conference, April 1984.

Model and Situation Specific of Methods. Risk Engineering Reliability Analysis of an LNG Facility. Cammaert, Chapman, Cooper, J. Orl Res. Soc. Vol 35 No. 1, 1984.

Current and Sediment Modeling for Toronto Waterfront. Bridgeman et al., 25th Anniversary Conference on Great Lakes Research, 1982.

Numerical Modeling of Scour Around a Caisson Island. Bridgeman , Fleming, Moir., Ocean Structural Dynamic Symposium, 84 - Oregan State University, Sept. 1984.

ADDITIONAL INFORMATION

Regional Offices:

1124 Northside Road
Burlington, Ontario
L7M 1H4
(416) 335-6771
061-8772

5th Floor
10201 Southport Road SW
Calgary, Alberta
T2W 4X9
(403) 253-9161
03-825582

5251 Duke Street
Suite 625, Scotia Square
Halifax, Nova Scotia
B3J 1P3
(902) 429-9355
019-22759

5259 Dorchester Road
P.O. Box 1001
Niagara Falls, Ontario
L2E 6W1
(416) 354-3831
061-5107
ACRESCAN NFS

44 Torbay Road
St. John's, Newfoundland
A1A 2G4
(709) 754-1710
016-4118

325 Vulcan Avenue
P.O. Box 1375
Sydney, Nova Scotia
B1P 6K3
(902) 564-5583
019-35174

480 University Avenue
Toronto, Ontario
M5G 1V2
(416) 595-2000
06-217815
ACRESCAN TOR

ACRES CONSULTING SERVICES LIMITED
TRANSPORTATION DIVISION

ADDITIONAL INFORMATION (cont'd)
8th Floor
800 West Pender Street
Vancouver, British Columbia
V6C 2V6
(604) 683-9141
04-55128

Sixth Floor
500 Portage Avenue
Winnipeg, Manitoba
R3C 3Y8
(204) 786-8751
07-55281

Suite 302,
29 Gervais Drive,
Don Mills, Ontario M3C 1Y9
(416) 446-1425 - Telex: 06-966717

Albery, A.C.R.
Forrest, B.W.

ALBERY, PULLERITS, DICKSON AND ASSOCIATES (APD)

OBJECTIVES/FUNCTIONS

Studies, economic analysis, design and construction of the following:

- marine facilities such as docks, harbours, breakwaters and terminals
- offshore structures in Arctic waters and for East Coast Canada, i.e. Hibernia and Sable Island
- tunnels of all kinds
- municipal projects - water and sewer and water resources
- small hydro-electric plants
- roads and bridges
- marine transportation.

ACTIVITIES

Design, construction management on all projects. Ice management (excluding ice mechanics), the study of resistance of ships in ice and the ice loading of building structures. Computer programs developed to assess ship performance in ice. Computer programs to determine forces on offshore structures due to ice and waves.

INFORMATION SOURCES AND SERVICES

Computer program of ice resistance/ship performance developed during study of marine transportation of oil and LNG by various routes from Melville Island.

Files relating to port/terminal design such as berth occupation, berthing times.

Technical library.
Information mainly for company use.

ADDITIONAL INFORMATION

Regional Offices:

1040 Lorne Street South
Sudbury, Ontario P3C 4R9
(705) 674-8343

26 Hiscott Street
St. Catharines, Ontario L2R 1C6
(416) 685-8441

P.O. Box 1025
Complexe Desjardins
Montreal, Quebec H5B 1C2
(514) 284-9661

1820 Hollis Street
Halifax, Nova Scotia B3J 2W7
(902) 423-8221

Canrede Ltd.
1210 Sheppard Ave. East
Willowdale, Ontario M2K 1E3
(416) 497-8636

Corner Brook Engineering
P.O. Box 133
Corner Brook, Newfoundland A2H 6C7
(709) 634-2605

4-103-C

Suite 1202,
625 Ave. du President Kennedy,
Montreal, Quebec H3A 1K2
(514) 286-9611 - Telex: 055-60852

Airey, Anthony M. - President

AMACAN MARITIME INC.
(AMACAN)

OBJECTIVES/FUNCTIONS

Offers technical service to the marine industry in representation, ship management and surveying, engineering, supply marine lubricants.

INFORMATION SOURCES AND SERIVCES

Study of Eastern Canadian Petroleum Tanker Market and Fleets.

Files are available for a fee. Letter indicating interest required.

4-104-C

AMERICAN BUREAU OF SHIPPING
CANADIAN OFFICES

Suite 1807,
Toronto Star Building,
One Yonge Street,
Toronto, Ontario M5E 1E5
(416) 368-6101 - Telex: 06-218706

Mason, George H.
Principal Surveyor for Canada

OBJECTIVES/FUNCTIONS

A non-profit organization engaging in the classification of ships for insurance purposes and the monitoring of the maintenance of classification by annual surveys. Through the Ocean Engineering Division, ABS is involved in the classification of off-shore mobile drilling structures. ABS operates in 98 countries.

ACTIVITIES

Receipt and approval of plans for ships under construction. Provision of design information to meet classification requirements. Annual surveys of ships classified by ABS are conducted to ensure that standards are maintained. Ocean Engineering Division provides plan review and inspection for off-shore structures. ABS Worldwide Technical Services, Inc. (ABSTECH) provides inspection services of land-based structures. ABS Fuel Testing Service conducts fuel oil analysis; evaluates fuel systems etc.

INFORMATION SOURCES AND SERVICES

Ships built to ABS classification - file details vessels by flag of registry, stages of construction, place of construction, classification. Held as ABSIRS, ABS computer file. Published as *Record*.

Conferences/Meetings

Canadian Committee of the ABS holds annual conference. The Bureau reports to this committee composed of leaders in the field of shipbuilding and ship repair.

PUBLICATIONS

Annual Report.

RECORD of the American Bureau of Shipping (Annual), with periodic Supplements.

Rules for Building and Classing Steel Vessels. 1984. $40.00 U.S.
English language edition (Annual)
Greek language edition (1982)
Japanese language edition (1983)
Portuguese language edition (1979)
Spanish language edition (1983).

Rules for Building and Classing Aluminum Vessels (1975).

Rules for Building and Classing Steel Vessels for Service on Rivers and Intracoastal Waterways (1980).

Rules for Building and Classing Steel Vessels Under 61 Meters (200 Feet) in length (1983).

Rules for Building and Classing Steel Vessels for Service in Southeast Asia (1982).

Rules for Building and Classing Mobile Offshore Drilling Units (1980).

Rules for Building and Classing Offshore Installations (1983).

Rules for Building and Classing Underwater Systems and Vehicles (1979).

Rules for Building and Classing Single Point Moorings (1975).

Rules for Building and Classing Bulk Carriers for Service on the Great Lakes (1978) $12.00 U.S..

Rules for Building and Classing Steel Barges for Offshore Service (1973).

Rules for Building and Classing Steel Floating Dry Docks (1977).

Rules for Building and Classing Reinforced Plastic Vessels (1978) $12.00 U.S.

Rules for the Certification of Cargo Containers (1974).

AMERICAN BUREAU OF SHIPPING

CANADIAN OFFICES

PUBLICATIONS (cont'd)

Rules for Nondestructive Inspection of Hull Welds (1975) Chinese language edition (1983).

Guide for Building and Classing Fire Fighting Vessels (1981).

Guide for Burning Crude Oil and Slops in Main and Auxiliary Boilers (1978).

Guide for Construction of Shipboard Elevators (1975).

Guide for Repair and Cladding of Shafts (1980).

Guide for Ultrasonic Examination of Carbon Steel Forgings for Tail Shafts (1983).

Guide for Ships Burning Coal (1980).

Guide for Underwater Inspection in Lieu of Drydocking Survey (1975).

Guide for Reactivation of Laid-up Ships.

Guidance Manual for Making Bronze Propeller Repairs (1972).

Guidance Manual for Material Selection and Inspection of Inert Gas Systems (1980).

Requirements for the Certification of Self-Unloading Cargo Gear on Great Lakes Vessels (1974).

Requirements for the Certification of the Construction and Survey of Cargo Gear on Merchant Vessels (1975).

Approved Welding Electrodes, Wire-Flux and Wire-Gas Combinations (Annnual) with Appendix on Rules for Approval.

Newsletter. Monthly.

Surveyor. Quarterly

Available from:

Publications Department
American Bureau of Shipping
65 Broadway
New York, N.Y. 10006

ADDITIONAL INFORMATION

Canadian offices:

Suite 1807, Toronto Star Building
One Yonge Street
Toronto, Ontario
M5E 1E5
(416) 368-6101 Telex: 06-218706

Walter F. Dixon, Senior Surveyor

Roy Building, Suite 520
1657 Barrington Street
Halifax, Nova Scotia
B3J 2A1
(902) 423-6236/7 Telex: 019-23579

David McGlashan, Senior Surveyor

276 St. Jacques Ouest
Suite 820
Montreal, Quebec
H2Y 1N3
(514) 844-3029 Telex: 05-25549

Allan Watson, Surveyor

C/o Newfoundland Marine Design Ltd.
P.O. Box 296, Section C
321 Duckworth Street
St. John's, Newfoundland
A1C 5J2
(709) 726-4667 Telex: 016-4183 for ABS

Nigel W. Thompson, Surveyor

AMERICAN BUREAU OF SHIPPING

CANADIAN OFFICES

ADDITIONAL INFORMATION (cont'd)
837 West Hastings Street, Room 707
Vancouver, British Columbia
V6C 1B6
(604) 683-7606 Telex: 04-51524

Gordon Fenwick, Principal Surveyor

Head office:

65 Broadway
New York, New York 10006
(212) 440-0300 Telex: 00-12-5167.

Complete List of offices available in *International Directory of Offices* published quarterly.

4-105-C

Suite 100, 626 Bute Street,
Vancouver, British Columbia V6E 4E7
(604) 683-4221 - Telex: 04-508871

ANGLO CANADIAN SHIPPING COMPANY

Grimstone, Allan D. - President

OBJECTIVES/FUNCTIONS

We are a privately held corporation whose particular objective is to provide as economically as possible the most suitable and efficient ocean-going vessels available to worldwide destinations as may be required by Canadian exporters and importers. We function as ship charterers, ship brokers, liner agents, tramp agents and marine transportation consultants.

ACTIVITIES

In order to carry out our charter and brokerage activities, we must constantly review charter market rates and conditions prevailing worldwide; also, keep ourselves fully informed with regard to changing traffic and trade patterns, particularly out of Pacific Coast ports to overseas markets. The foregoing entails a detailed examination and study of ship types, sizes, cargo handling capabilities, etc., and the practical ability to assess the advantages, disadvantages of each type which is acquired by accumulating knowledge, by long-term experience and analysis of statistical information available.

INFORMATION SOURCES AND SERVICES

We maintain files on world-wide port information, stevedoring rates and charges. We also maintain files on ship general arrangement plans of various sizes, type and shapes and our general operating files based on the experience gained from handling each of the vessels that have come under our care.

Our files are not available to outside researchers but we are prepared to conduct studies for clients on specific requests for detailed information at a fee to be arranged.

311 Legget Drive,
Kanata, Ontario K2K 1Z8
(613) 592-2830 - Telex: 053-4730

ARCTEC CANADA LIMITED

Glen, Ian F. - President

OBJECTIVES/FUNCTIONS

Performing applied research and development in the arctic and offshore, operates two specialized arctic laboratories including ice model basins and cold rooms.

Performs contract research in support of Government and Industry in advancing marine technology in Canada.

ACTIVITIES

Testing of vessels and structures at model scale in tanks, to determine performance.

Testing of vessels and structures at full scale to measure performance to compare with specifications and develop design standards.

Development and manufacture of specialized instrumentation systems for use in monitoring ship performance.

Transit, route and risk analysis.

Development of design tools and computer programs to assist ship design.

Simulation of ships navigating in ice covered waters.

Planning of marine R&D requirements and programs.

INFORMATION SOURCES AND SERVICES

A library of technical reports related to marine transportation containing over 8,000 entries. (1950 -).

A library of internal research reports exceeding 2,000. (1970 -).

Computer tapes containing research data on many model and full scale tests.

Copies of library documents can be obtained at cost following personal visit.

Research reports and data tapes are propretary and not available for reference without written authority from our client.

Librarian: Bonnie Turnbull.

PUBLICATIONS

Ice News Canada. Company newsletter.

An Arctic Ice Model Basin - Design, Construction, and Operating Experience. R.Y. Edwards, J. Lewis, D. Benze. Technical University of Norway.

An Experimental Evaluation of Oil Spill Combustion Promoters. W.K. Tam, W. Purves. Presented at OCEAN 80, Seattle, 1980.

An Experimental Investigation of Two Candidate Propeller Designs for Ice Capable Vessels. I.F. Glen, T. Sasajima, V. Bulat. POAC, July 1981.

Arctic Trafficability Program - A Review. Voelker, R.P., Glen, I.F., Seibold, F., and Bayly I. Presented to ASNE Annual Meeting, Washington, D.C. May 1984.

Arctic Marine Transportation Research: A Key to the North. P. Noble. CSME Annual Meeting, Calgary, 1980.

Arctic Shipping to the Year 2000. D. Miller. Presented to the Joint Oceanographic Conference, Halifax, August 1982.

ARCTEC CANADA LIMITED

PUBLICATIONS (cont'd)

Arctic Tanker Bow Forms and Evaluation of Full Scale Propulsive Performance in Ice. Takekuma, Kawaguchi, N. and I. Glen. Presented at SNAME Arctic Section, Ice Tech Symposium, Calgary, May 1984.

Assessment of Ice Ride Up/Pile Up on Slopes and Beaches. J. Cox, J. Lewis, D. Behnke and R. Abdelnour. Presented at POAC No. 83, Helsinki, Finland, April 1983.

Baffin - A Dynamic Ship/Ice Interaction Model. C. Daley. Presented to SNAME - Ice Tech 84, Calgary, May 17, 1984.

Booms Offshore. W. Purves, W. Wallace, R. Abdelnour, and B. Roberts. AMOP Seminar, Edmonton, Alberta, June 1980.

The Canadian Arctic Marine Technology R&D Program: A Review. I.F. Glen. Presented to Eastern Canadian Section SNAME, Ottawa, 1983.

Experimental Study on the Relative Iceworthiness of Four Navigation Buoy Hulls in Moving Ice. B. Menon, P. Noble, and M.B. Belcher. Presented at POAC 83, Helsinki, Finland, April 1983.

Feasibility of Water Spray Barriers as Fireproof Oil-Slick Containment Devices. B. Menon, G. Comfort. Presented at OCEAN 80 Conference, Seattle, September 1980.

Field Evaluation of Oil Skimmers. R. Abdelnour, W. Wallace, B. Roberts and W. Purves. AMOP Seminar, Edmonton, Alberta, June 1980.

Field Measurement of Kinematic Friction Between Ice and Rigid Structures. G. Comfort, A. Nawwar. Workshop on Sea Ice Field Measurements, Memorial University of Newfoundland, St. John's, Newfoundland, April 29 - May 1, 1980.

Field Study on Mechanical Strenght of Sea Ice at East Coast of Hokkaido. Y. Kayo, T. Kawaskai, T. Minami, S. Tozawa, A. A.Tanaka and R. Abdelnour. Presented at POAC'83 Helsinki, Finland, April 1983.

Icebreaker Bow Forms - A Parameteric Variation. P. Noble, V. Bulat. SNAME Star Syposium, ICE TECH '81.

Ice Impact Pressure and Load: Investigation by Laboratory Experiments and Ship Trials. I.F. Glen, G. Comfort. Presented at *POAC '83, Helsinki, Finland, April 1983.

Ice Load Sensors for Offshore Arctic Structures. B. Graham and L. Chabot. Presented at POAC '83, Helsinki, Finland, April 1983.

Ice Ride-Up on a Man-Made Island. R. Abdelnour, M. Sayed, M. Metge. Presented at the 14th Annual OTC in Houston, Texas, May 3 - 6, 1982.

Ice Rubble Field Stability. B.W. Graham. Offshore Technology Conference, May 3 - 6, 1982.

Interaction of Ice Floes with Columns of a Semi-Submersible. P. Noble, and C. Daley. Offshore Technology Conference, May 3 - 6, 1982.

Marine Safety in Cold Regions. P. Noble. Dept. of Naval Architecture and Ocean Engineering, University of Glasgow, 1983.

Measurement of Ice Impact Pressures and Loads Onboard CCGS Louis S. St. Laurent. Glen, I. and Blount H. Presented at 7th Annual Energy Sources Technology Conference and Exhibition, New Orleans, February 1984.

Model Tests of an Icebreaking Inclined Plane Structure. R. Abdelnour. 1980 Annual Conference of the Canadian Society for Civil Engineering, Winnipeg, 1980.

Model Tests of Level Ice and Multi-Year Ridges Moving on to Conical Structures. R. Abdelnour. IAHR, Quebec City, 1980.

ARCTEC CANADA LIMITED

PUBLICATIONS (cont'd)

Model Tests of Sea Bottom Scouring. R. Abdelnour, D. Lapp, S. Haider, S. Shirde No. B. Wright. POAC '81, Quebec City, 1981.

On the Optimization of Ship Motion in Heavy Ice Conditions. A.M. Nawwar. Presented to ASME, February 1984, New Orleans.

Performance of a New Air Cushion Icebreaking Bow. R. Abdelnour, J. Dubois and J. Laframboise. Presented at POAC '83, Helsinki, Finland, April 1983.

Personal View of Development and History of Icebreakers. D. Miller. Presented to SNAME, Arctic Section, December 1982 in Calgary.

Physical Simulation of Arctic Marine Structures. R. Abdelnour, B. Menon. Presented at the 6th Canadian Hydrotechnical Conference, June 1983, Ottawa.

Resistance and Propulsion of Ice-Worthy Ships. J.W. Lewis, F. Debord, V. Bulat. Presented at SNAME, New York, 1982.

Results of Full Scale Trials in Ice of CCGS Pierre Radisson. R.Y. Edwards, G. Comfort, V. Bulat, B. Johnson, M. Dunne. SNAME, 1981.

The Role of Simulation in Arctic Marine Development. P. Noble, I. Glen. OCEANS 83, San Francisco, 1983.

Safe Shipping in the Arctic. P. Noble, C. Daley. SNAME Pacific N.W. Fall Meeting, Harrison Hot Springs, 1980.

Ship's Hull as a Test Instrument. W.K. Tam, R.Y. Edwards, A. Nawwar. Paper Presented at Workshop on Sea Ice Field Measurements, C-CORE, Memorial University of Newfoundland, St. John's, Nfld., May 1980.

Some Applications of Advanced Technology in the Marine Industry. Glen, I.F. Presented to the Annual Technical Conference, Canadian Shipbuilding and Ship Repair Association, Montreal, February 1984.

State-of-the-Art Review of Measurement of Ice Forces on Ship Structures. I.F. Glen. Prepared for NRC Working Group on Ice Forces, 1981.

Transit Analysis for Delivery of Large Barges to Arctic Destinations. P. Noble, A. Nawwar, K. Takekuma. POAC '81.

Triaxial Compressive Strenght of Saline Ice. A.M. Nawwar, J.P. Nadreau, and Y.S. Wang. Presented at POAC '83 in Helsinki, Finland, April 1983.

ADDITIONAL INFORMATION

Regional Offices

16-6325 11th Street S.E.
Calgary, Alberta T2H 2L6
(403) 255-5595

Arctec Newfoundland
P.O. Box 5040
330 Portugal Cove Rd.
St. John's, Newfoundland
A1C 5Z3
(709) 726-4440

1986 Mills Road, R.R. 2,
Sidney, B.C. V8L 3S1
(604) 656-0177 - Telex: 049-7476
Marko, J.R.

ARCTIC SCIENCES LTD. (ASC)

OBJECTIVES/FUNCTIONS

To provide consulting, analysis, field and instrument design services to private sector and government clients with marine interests and responsibilities. Fields of specialization include physical oceanography and sea-ice.

ACTIVITIES

Quantitative studies of ice movement and breakup patterns in navigable waterways.

Studies of iceberg trajectory modelling.

Studies of sediment transport patterns in the Beaufort Sea.

Research and design studies of new acoustic techniques for measurement of directional ocean wave spectra and currents.

INFORMATION SOURCES AND SERVICES

Information held is relevant to Canadian marine transportation but is not specifically "on" this topic. Non-proprietary reports are available on request.

ADDITIONAL INFORMATION

Regional office

100 Ilsley Avenue
Unit AA
Dartmouth, N.S.
B3B 1L3

(902) 465-3871 Telex: 019-31590

Contact: G.R. Wilton.

No. 305 - 465 St. John Street,
Montreal, Quebec H2Y 2R6
(514) 844-3436 - Telex: 05-24685

Pomkoski, K.J. - President

ASSOCIATED CONFERENCES SECRETARIAT REG'D

OBJECTIVES/FUNCTIONS

The establishment and negotiation of ocean freight rates for conferences represented in export trades to countries within the scope of each conference. The Secretariat acts as administrator for:

- Canada-Mediterranean Eastbound Freight Conference
- East Canada/Japan (including Korea) Freight Conference
- Inter-American Freight Conference - Can. Area "A" and "D" Eastern Canada - Caribbean Freight Association.

PUBLICATIONS

Tariff No. 18 - Canada-Mediterranean. $200.00.

Tariff No. 1003 - East Canada/Japan. $200.00.

Tariff No. 6 - Inter-America Brazil. $150.00.

Tariff No. 7 - Inter-America - Argentina/ Paraguay/Uruguay. $150.00.

Tariff No. 2 - Eastern Canada - Caribbean Freight Association. $300.00.

(W.F.) BAIRD AND ASSOCIATES COASTAL ENGINEERS LTD. (WFBA)

Suite 309,
1390 Prince of Wales Drive,
Ottawa, Ontario K2C 3N6
(613) 225-6560 - Telex: 053-4951

Baird, W.F. - President

OBJECTIVES/FUNCTIONS

The Company provides professional engineering services in the fields of Coastal and Ocean Engineering.

ACTIVITIES

Procedures for the Estimation of Extreme Wave Heights.

Client: Marine Environmental Data Service (MEDS), Ottawa.

Procedures for the estimation of extreme waves were reviewed and software was developed to allow MEDS to undertake any one of several valid procedures for estimating extreme wave heights. Type I and II and III assympotic distributions are fitted to hindcast or recorded data using any one of three methods. Analysis can be undertaken on a storm by storm basis, or with annual, seasonal or monthly maxima at the users discretion.

Comparison of Hindcast and Recorded Wave Data for the North Atlantic.

Client: Marine Environmental Data Service (MEDS), Ottawa.

Archived results of the U.S. Army Corps of Engineers (WIS) spectral hindcast model of the North Atlantic, for the Grand Banks and Scotia Shelf, were compared with all available recorded wave data. Recommendations for improvements to the spectral model for application to Canadian Continental Shelf waters were made.

Document of Available Wave Data for Ship Strenght Analysis.

Client: Transport Canada

Available data describing the wave climate of areas used by Canadian shipping were documented and assessed. Particular emphasis was placed on a review of directional spectra hindcast data for the Atlantic Ocean.

Comparison of Long Term Vertical Bending Moment Response in Ships on a North Atlantic and Caribbean Route.

Client: Transportation Development Centre, Montreal

The study was undertaken to provide information to assist Transport Canada in assessing the feasibility of using ships with a reduced section modulus on a Caribbean shipping route. An investigation into the availability and reliability of wave data for the North Atlantic and Caribbean route was undertaken. A comparison of non-dimensional wave energy ratios calculated using wave data obtained from the U.S. Navy SOWM hindcast and 11 years of ship observations of wave data archieved by the Bedford Institute of Oceanography was made.

The major emphasis of the study was to evaluate the wave induced vertical bending moment response for two ships in wave climates representative of the North Atlantic and the proposed Caribbean shipping route. It was recommended that a more accurate assessment of the wave induced hull stresses should be made using more advanced technical methods including conventional structural analysis techniques such as finite element methods and space frame analysis.

Comparison of Wave Data Representative of the Hibernia and Venture Areas with Data Representative of the North Sea Wave Climate.

Preparation of *Report on State of Knowledge of*

(W.F.) BAIRD AND ASSOCIATES COASTAL ENGINEERS LTD.
(WFBA)

ACTIVITIES (cont'd)

Wind Wave Data for the Eastern Seaboard With Respect to Requirements of the Canadian Oil Industry.

INFORMATION SOURCES AND SERVICES

Technical reports can only be released with the permission of the client.

PUBLICATIONS

A Comparison of Hindcast and Recorded Wave Data
Client: Marine Environmental Data Service, May 1981
Authors: J.S. Readshaw, W.F. Baird
Date: May 1981
Marine Environmental Data Services Contract Report - Series 1

A Discussion of Procedures to Estimate Extreme Wave Heights Over the Canadian Atlantic Continental Shelf
Client: Marine Environmental Data Service (MEDS)
Authors: J.S. Readshaw, W.F. Baird
Date: July 1981
Marine Environmental Data Services - Contract Report - Series 3

Wave Climate Documentation Study
Client: Transport Canada
Authors: W.F. Baird, K.R. Hall
Date: July 1982

Wave Study - West Indies Route
Client: Transportation Development Centre
Authors: K.R. Hall, W.F. Baird
Date: March 1983

Wave Hindcast for the Beaufort Sea
Client: Gulf Canada Resources Inc., Calgary
ESSO Resources Canada Ltd., Calgary
Dome Petroleum Ltd., Calgary
Arctic Petroleum Operators Association
Author: J.S. Readshaw
Date: December 1983

Comparison of Wave Data Representative of the Hibernia and Venture Areas with Data Representative of the North Sea Wave Climate

Client: Marine Environmental Data Service, Ottawa
Author: W.F. Baird
Date: June 1984

An Assessment of the State Of Knowledge of East Coast Offshore Wave Climatology
Client: Marine Environmental Data Service, Ottawa
Author: W.F. Baird
Date: June 1984

4-110-C

Suite 301,
1220 Kensington Rd. N.W.,
Calgary, Alberta T2N 3P5
(403) 270-2221 - Telex: 03-827666
(403) 270-3006

Griffin, B.J.

(F.G.) BERCHA AND ASSOCIATES LIMITED (FGBAL)

OBJECTIVES/FUNCTIONS

Engineering, systems and environmental consulting firm with specialist capabilities in ice arctic engineering, ocean engineering, arctic geography and oceanography, offshore facility design.

ACTIVITIES (selected)

Risk analyses of arctic marine transportation systems involving class 10 tankers.

Design of arctic ports, terminals, mooring systems and other facilities.

Use of remote sensing techniques including SLAR and SAR for icecover, water resource, geomorphology, and terrain analysis.

Collection and analysis of ice and oceanographic data for input to engineering functions.

Study of ice forces on a variety of structures for the Canadian Coast Guard, Supply and Services Canada, Transportation Development Centre and Department of Public Works.

Evaluation of effects of iceberg impacts on offshore structures off the East Coast of Canada.

INFORMATION SOURCES AND SERVICES

Data generated in connection with projects undertaken for clients is of a proprietary nature, and not available for outside researchers.

PUBLICATIONS

Staff has authored over 300 publications in the areas of ocean engineering and marine transportation. The firm has generated numerous public and proprietary reports including *Ice-Structure Interaction Engineering Design and Construction Criteria*. March 1984.

ADDITIONAL INFORMATIONS

Regional offices:

Ste 450, 130 Slater Street, Ottawa, Ontario K1P 6E2
(613) 563-0555

3rd Floor, 210 - 214 Water Street, St John's, Newfoundland A1C 6E6
(709) 722-3911

4-111-C

(ERNEST E.) BUSTARD
FRINA

231 Watson Avenue,
Oakville, Ontario L6J 3V2
(416) 844-9500

OBJECTIVES/FUNCTIONS

E.E. Bustard is a retired naval architect operating as a private consultant in matters of generalist naval architecture. Advice is available on design problems related to ships, terminal facilities, oil transportation, oil tankers, marine legislation, evaluation and arctic studies.

ACTIVITIES

Risk study on the movement of a gas plant to the western Arctic for Imperial Oil.

Several studies on arctic transportation of oil and gas to southern markets for Imperial Oil.

Safety audit of marine operations in the Arctic for Imperial Oil.

Study to reduce cost of terminal facilities for Gulf Canada.

Designed all tankers built for imperial Oil 1956-1976.

Prepared briefs for Petroleum Association for the Conservation of the Environment on various legislative proposals of government.

Prepared briefs on international legislation.

INFORMATION SOURCES AND SERVICES

RINA Transactions, 1907-date.

N.E.C. Inst. Transactions, 1932-date.

SNAME Transactions, 1949-date.

An indexed technical press clipping file.

Collection of data on the Arctic.

Most reports prepared and on file are of a proprietary nature. These are not accessible to outside researchers.

PUBLICATIONS

Use of Propellor as a Power Meter or Speed Log. CIME. 1978.

Merchant Ships for the Canadian Arctic. SNAME/CIME, 1971.

The Importance of Size in an Arctic Ship. SNAME. 1975.

All of the above are out-of-print. Xerox copies are available.

4-112-C

P.O. BOX 200
First Canadian Center, 16th Floor,
620 3rd Street S.W.,
Calgary, Alberta
(403) 231-3000

CANADIAN MARINE DRILLING LTD (CANMAR)

Johansson, B.M. - General Manager,
Research and Marine Engineering and Design

OBJECTIVES/FUNCTIONS

To locate and delineate petroleum reserves sufficient for successful commercial production. Canmar, a wholly-owned subsidiary of Dome Petroleum Limited, performs exploratory drilling in the Arctic with its own personnel and drilling equipment and contract drilling and marine support services primarily for Arctic offshore regions.

ACTIVITIES

Canmar owns and operates a fleet of four drilling vessels, one mobile drilling caisson, eight supply vessels, two icebreakers, one 30,000 fuel storage vessel, five tug/support vessels and a variety of construction and work barges in support of Dome's role in the Beaufort Sea. The operation is conducted from the port of Tuktoyuktuk and the dredged harbour created by Canmar at McKinley Bay. From this base, the supply ships support the drillships and chartered dredgers, which operate from 80 to 160 km offshore.

Canmar is involved in the design of icebreakers, drillships, icebreaking oil tankers and LNG carriers and support vessels. The company conducts arctic research, which is necessary to support the drilling operations.

INFORMATION SOURCES AND SERVICES

Canmar Filing and Technical reports - a series of proposals, mathematical models, test results relating Canmar's vessels' performance in ice. Items were produced in-house, and are held in numbered booklets.

Technical reference section provides back-up to the offshore operation.

Bibliographic and periodical material, government documents, conference proceedings, consultants' reports, CANMAR studies.

All CANMAR research raw data files held here. Material relates to Arctic marine operations, dates from 1974.

Very limited access to technical reference section upon application to Mr. Dick Medlock. No access to CANMAR research files.

PUBLICATIONS

Research reports for in-house distribution, not generally available.

Suite 1100,
700 West Pender Street,
Vancouver, B.C. V6C 1G8
(604) 665-3158

CANADIAN PACIFIC RAIL/ COASTAL MARINE OPERATIONS

Moule, E.A. - General Manager

OBJECTIVES/FUNCTIONS

Basic function is the transportation of rail cars to and from Vancouver Island, connecting with CP Rail main lines, and in addition we provide a drop-trailer service for commercial freight to and from the Island.

ACTIVITIES

In-house studies are conducted for project analysis within the framework of CP Rail investment analysis.

INFORMATION SOURCES AND SERVICES

Coastal Marine Operations as such does not have a library but Canadian Pacific has a corporate library located in Montreal. Our own office maintains records of the traffic volumes on B.C. ferries, our only major competitor. Data can be obtained upon request by interested parties at no fee

Courses/Programs

A wide range of courses is available to employees at Canadian Pacific under a reimbursement program for successful completion.

P.O Box 277,
Collingwood, Ontario L9Y 3Z6
(705) 445-4040 Telex: 0687-5545

Harris, T.R. - Comptroller

CANADIAN SHIPBUILDING AND ENGINEERING LIMITED

OBJECTIVES/FUNCTIONS

Shipbuilding to maximize seaway-sized vessels; ship repairs; general engineering and millwork.

ACTIVITIES

Complete design and drawing staff on site. Particular expertise in self- unloading type vessels to maximum seaway size. Also invented and designed self-tensioning mooring winches.

INFORMATION SOURCES AND SERVICES

Firm holds a multitude of files and technical reports relating to ship construction. Availability of these files to researchers will be determined upon examination of each specific request.

In house library including technical publications, government regulations, classification society rules, technical magazine articles, etc. G.A. Van der Net, Chief Designer, is in charge.

PUBLICATIONS

Recent Developments in Great Lakes Self Unloading Bulk Carriers.

Cad/Cam and Shipyard Productivity.

Small Shipyard Productivity.

Autoken in Collingwood.

The Implementation of Inter-Active Autoken at Collingwood Shipyards.

The Great Lakes Bulk Carrier Past, Present and Future.

The Concept of an Integrated Information and Planning Control System.

ADDITIONAL INFORMATION

Regional Office:

Port Arthur Shipbuilding Company
P.O. Box 2690, Station P
Thunder Bay, Ontario P7B 5C2
(807) 683-6261

Suite 1005,
350 Sparks St.,
Ottawa, Ontario K1R 7S8
(613) 234-8414

Luce, Martin; Sneyd, Allan

CANARCTIC SHIPPING COMPANY LTD

OBJECTIVES/FUNCTIONS

The company operates the M.V. Arctic, an experimental Canadian-built and designed Arctic class 2 bulk carrier, along with other vessels chartered for one or more arctic voyages each year. In pursuing its commercial objectives the company also has a mandate to develop and record the technology required for the operation of commercial vessels in the Canadian Arctic.

The company has acquired the right to operate the M.V. Arctic by entering into a 15 year bareboat charter with the owner of the vessels, the Royal Trust Company of Canada Limited. The bareboat charter terminates on June 14th, 1993.

INFORMATION SOURCES AND SERVICES

Files on research projets relating to AWPPA and CASSPR are held by the Canadian Coast Guard. Many research projects conducted under the Arctic Marine Transportation R&D Program are held confidential by the Marine Administration of Transport Canada. Information may be obtained from the Chief Marine R & D, 22nd Floor, Tower "A", Place de Ville, Ottawa, K1A 0N7 (613) 995-7324.

Files on operational research are held jointly by the Transportation Development Centre and the Marine Administration. Information is available from the address noted above.

Some confidentiality restrictions are in place. Specific requests will be considered on the basis of the information requested.

4-116-C

CBCL LIMITED

1496 Lower Water St.,
P.O. Box 606,
Halifax, Nova Scotia B3J 2R7
(902) 421-7241

Arnold, T.C. - President

OBJECTIVES/FUNCTIONS

The company provides expertise in design, construction administration, project management, studies and evaluation and expert testimony.

ACTIVITIES

The firm has designed and project managed many fishing vessels constructed in steel, aluminum, wood and reinforced fiberglass. Patrol and paramilitary vessels to protect fishing zones are needed in increasing numbers. Designs for these and other vessels for use in Canadian and overseas waters have been completed.

Under the Technical Investigation and Engineering Services program (TIES) operated by National Defence CBCL has provided naval architecture, mechanical and electrical engineering services to complete a variety of investigations and designs for alterations and additions to naval vessels.

R & D work completed for Environment Canada includes the development of a multi-purpose modular vessel for use on inland waters.

At the land and water interface CBCL Limited has investigated the upgrading of facilities such as wharves, cranes, storage tanks and buildings.

INFORMATION SOURCES AND SERVICES

Information resources kept by the company are mostly proprietary and not available to outside researchers.

ADDITIONAL INFORMATON

Regional Offices:

141 Duckworth Street
P.O. Box 5683
St. John's, NFLD
A1C 5W8
(709) 753-6570

41 St. Peter's Road,
Charlottetown, P.E.I.
C1A 7N4
(902) 892-0303

P.O. Box 567, CN Building,
Sydney, N.S.
B1P 6H4
(902) 539-1330

4-117-C

Suite 104,
4530 Cote des Neiges,
Montreal, Quebec H3V 1G1
(514) 735-0730 Telex: 05-25134-MTL

Dr. Doust, David J. - President

CENTRAL DESIGN AND DRAFTING LTD (CENDRAFT)

OBJECTIVES/FUNCTIONS

Ship design and marine engineering.

Marine consulting services.

Computer services.

Expert marine testimony.

ACTIVITIES

Marine consulting for most Canadian and foreign owners.

Design services for specific projects.

Development of computers in collaboration with Kockumation A.B.

Fishing vessel design and development.

Ship surveys and inpections in collaboration with Universal Marine Consultants, Montreal.

Marine transportation studies.

INFORMATION SOURCES AND SERVICES

Library collections.

Company reports to specific clients.

There is a fee for the reports.

4-118-C

1100 - 10080 Jasper Avenue,
Edmonton, Alberta T5J 1V9
(403) 424-7296

DALCOR INNOVENTURES LTD

McDougall, John R. - President

OBJECTIVES/FUNCTIONS

An independent organization offering consulting services to clients in the field of management engineering, transportation facilities, logistics and economics.

ACTIVITIES

Projects related to marine transportation include a simulation of supply ship operations for drill ships, evaluation of ice patterns on northern shipping, conceptual planning of petrochemical marine terminals and offshore supply bases and evaluation of modular assembly facilities.

Dalcor offers expertise in the areas of port planning and development, sub- sea vehicles, off-shore drilling, policy development and economic evaluation.

INFORMATION SOURCES AND SERVICES

Small vertical file in support of projects carried out for clients. Access to outside researchers depends upon confidentiality of the project whose files are requested.

Small library collection: 25 periodical titles, some monographs, consultants' reports chiefly in field of off-shore drilling, northern transportation, marine fabrication and assembly, and marine terminals. Contact for library is Jill Sarvis.

(W.R.) DAVIS ENGINEERING LIMITED

1260 Oldinnes Rd.,
Ottawa, Ontario K1B 3B3
(613) 748-5500 - Telex: 053-3862

Lougheed, Jim; Guthrie, Brian

OBJECTIVES/FUNCTIONS

Consulting in the mechanical and electrical engineering disciplines.

Special R&D, prototyping, design and fabrication projects.

Transportation, engines, stress analysis, thermal/fluids, electronics, controls, computer software, energy, etc.

ACTIVITIES

Design and fabrication of wave making machinery for test basins.

Film cooling of hot exhaust stacks.

Simulation of DDH-180 propulsion machinery and control systems.

Special instrumentation.

Protection of propellors in ice.

Improved hydraulic start package for gas turbines.

Air cushion vehicle/surface effect. Ship lift system performance model.

INFORMATION SOURCES AND SERVICES

Miscellaneous literature, reports, especially federal government publications.

Some files available free of charge by contacting the contact-people.

All publicly available reports can be obtained from Transport Canada, NRC or Dept. of National Defence.

Davies Engineering has an internal library (contact: Pat Smythe).

ADDITIONAL INFORMATIONS

Regional office:

W.R. Davis Engineering Limited
Western Office: 42280 South Sumas Road
Sardis, B.C. V2R 1A9
(604) 823-4911

4-120-C

485A Garbally Road,
Victoria, British Columbia V8T 2J9
(604) 382-2132

DAWSON MARINE CONSULTANTS LTD

Dawson, Eric J. - P. Eng.

OBJECTIVES/FUNCTIONS

To undertake projects in the marine engineering field relating to the design, operation, modification and maintenance of ships' machinery and related shoreside equipment. We are members of the Association of Consulting Engineers of Canada (ACEC) and the Consulting Engineers of British Columbia (CEBC).

ACTIVITIES

Members of the Company have been involved in the design and/or modification of a number of vessels involved in marine transportation, including:

Burrard Inlet ferries (SEABUS).

B.C. ferries "Queen of Victoria", "Queen of Vancouver", "Queen of the North".

B.C. Government highways ferries.

In all of the above marine engineering consulting, feasibility studies and design were involved.

INFORMATION SOURCES AND SERVICES

Information and data in our files consists generally of that which we have compiled in the course of our investigations and design work, and includes our reports to various clients. Since it is mostly of a commercial and private nature it is not generally available except during the course of an engineering project.

No. 1110,
10201 Southport Road S.W.,
Calgary, Alberta T2W 4X9
(403) 253-3422

Hagen, Jan-Erik - Vice President
Dr. Jordaan, Ian - Head R & D
Dr. Murray, Alan
Senior Research Engineer

DET NORSKE VERITAS (DNV)

OBJECTIVES/FUNCTIONS

Veritas is an independent organization working world-wide for safety of life, property and the environment.

Veritas is well known as one the major classification societies-established in 1864. As of July 1, 1984 the fleet classified with Veritas registered in 90 countries. This constitutes approximately 11% of the world fleet.

Veritas is also recognized as one of the world's leading agencies for certification of offshore drilling/production installations and pipeline systems.

ACTIVITIES

Veritas' main activities are rules development, classification, certification, quality assurance and inspection supported by extensive research and development and data technology.

In the last ten years Veritas' activities in the offshore and industrial fields have increased rapidly, and the institution now holds a strong position as one of the world's leading authorities in the evaluation, inspection and certification of offshore structures, equipment and systems. Underwater technology and cold climate technology are fields in which extensive research and development work is now being undertaken.

Veritas has 260 stations in 104 countries. The back-bone of the field organization is the 900 surveyors who each year perform more than 100,000 ship surveys and carry out numerous assignments in the offshore and industrial fields.

INFORMATION SOURCES AND SERVICES

A large number of technical reports with statistical data, maps and charts etc. pertaining to Canadian marine transportation, arctic navigation are available in the Calgary as well as the society's head office in Norway.

The files are accessible by appointment.

Courses/Programs

Various international conferences and courses are organized or offered by Veritas. These are normally advertised in trade magazines.

PUBLICATIONS

Rules for Classification of Steel Ships (updated twice annually as required, subscription available).

Rules for Classification of Mobile Offshore Units (Updated twice annually as required, subscription available).

Rules for the Design, Construction and Inspection of Offshore Loading Systems.

Tentative Rules for the Construction and Classification of Dynamic Positioning Systems for Ships and Mobile Offshore Units.

Rules for the Construction and Classification of Floating Docks.

Rules for Certification of Lifting Appliances.

Rules for Certification of Diving Systems.

Rules for the Building and Classification of Wooden Vessels, 1970. Norwegian edition, English translation available.

Rules for the Construction and Certification of Boats, 1981. Norwegian and English editions.

Tentative Rules for the Construction and Classi-

DET NORSKE VERITAS (DNV)

PUBLICATIONS (cont'd)

fication of Ferrocement Vessels, 1974. Norwegian edition only.

Rules for Certification/Classification of Submersibles.

Tentative Rules for Navigational Aids and Bridge Systems, 1974.

Tentative Rules for the Construction and Classification of Dynamic Positioning Systems for Ships and Mobile Offshore Units, 1977.

Rules for the Construction and Classification of Floating Docks, 1977.

Rules for Certification of Lifting Appliances, 1980.

Rules for Certification of Freight Containers, 1981.

Rules for Certification of Diving Systems, 1982.

Declarations on Transit. Location and Lay-up of Mobile Offshore Units (June 1982).

Declarations on Lay-up of Ships (August 1983).

Declaration on Preservation of Laid-up Ships (August 1976).

Certification of Drilling Related Structures and Equipment According to the UK Offshore Intallations (Construction and Survey) Regulations 1974 (March 1982).

Design and Classification of Roll on/Roll off Ships, May 1980.

Prevention of Harmful Vibration in Ships, July 1983.

Internal Control. Mobile Offshore Units (Owners' Control System), September 1983.

Guidance Manual for Inspection and Repair of Bronze Propellers, May 1980 (Reprint of August 1974).

Guidance Manual for Inspection and Repair of Steel Propellers, May 1980 (Reprint of August 1977).

Plastic Pipes for Use on Board Ships, May 1980 (Reprint of December 1977).

Fire Test of Components Intended for Use in Piping Systems on Board Ships, May 1980 (Reprint of 1975).

Ultrasonic Inspection of Weld Connections, May 1980 (Reprint of November 1978).

Ships and Mobile Offshore Units, Planned Maintenance Systems as Basis for Survey for Retention of Class, May 1983.

Erosion and Corrosion in Piping Systems for Sea Water, May 1980 (Reprint of January 1979).

Instrumentation and Automation, Computer Based Systems, April 1982.

Buckling Strength Analysis, July 1982, (for Mobile Offshore Units).

Strength Analysis of Hull Structures in Bulk Carriers and Container Ships, May 1980.

Strength Analysis of Hull Structures in Roll on/Roll off Ships, May 1980.

Strength Analysis of Hull Structures in Tankers, May 1980.

Strength Analysis of Main Structures of Self-Elevating Units, July 1983.

Strength Analysis of Rudder Arrangements, January 1984.

DET NORSKE VERITAS (DNV)

PUBLICATIONS (cont'd)

Strength Analysis of Container Securing Arrangements, July 1983.

Reduction Gears in Lifting Machinery for Self Elevating Units, September 1982.

Register of Ships - Annual (contains information on ships, owners registry etc. of all ships in DnV class).

Technical Reports (list available).

Veritas Journal - Monthly (journal of business and techonology, subscription available).

Veritas WOAD Newsletter and *Annual Report* (contains information from World Wide Offshore Accident Data Bank, subscription available).

ADDITIONAL INFORMATION

Regional offices:

Montreal
Suite 1001, 800 Place Victoria, P.O. Box 12,
Tour de la Bourse, Montreal, Quebec H4Z 1A2

Halifax
No. 200, 1770 Market Street,
Halifax, Nova Scotia B3J 3M3

St-John's
Suite 601, TD Place, 140 Water Street,
St-John's, Nfld A1C 1A9

Vancouver
Suite 304, 1200 Lonsdale Avenue,
North Vancouver, B.C. V7M 3H6

4-122-C

(D.F.) DICKINS ASSOCIATES

3732 W. Broadway,
Vancouver, B.C. V6R 2C1
(604) 224-4124 - Telex: 04-54247

OBJECTIVES/FUNCTIONS

D.F. Dickins is an engineering consulting company specializing in analysis of ice conditions along arctic shipping routes and design of hovercraft for arctic icebreaking or logistic operations.

ACTIVITIES

Field research into ice conditions along arctic marine routes, multiyear ice, pressure ridge profiling.

Hovercraft testing over ice in the Beaufort Sea to collect basic engineering design data.

Evaluation of safe mooring sites and towing routes for drilling structures entering the Beaufort Sea.

Evaluation of historical ice conditions along proposed arctic tanker routes.

INFORMATION SOURCES AND SERVICES

Library collection of published and unpublished reports dealing with arctic sea ice conditions and vessel operations (including hovercraft).

Files are not generally available. Access maybe granted at special request through personal visit.

Librarian charges of $220/day are associated with use of any in-house material. There is no provision for mail distribution or loan of material. Copies can be made in-house of individual papers at cost. Expect to have company library holdings on computer by 1985.

Librarian in charge: D. Bradley.

PUBLICATIONS

Dickins, D.F., Wetzel V.F. *Multi-Year Pressure Ridge Study Queen Elizabeth Islands*. Proceedings POAC 81. Conference, Quebec City, July 1981 (results of work completed for Sun Oil in 1976 - 5 year confidentiality).

Dickins, D.F. *Arctic Marine Shipping Route Evaluations - Ice Conditions*. Proceedings Ice Tech 81 SNAME Symposium, Ottawa, June 1981.

1281 Bishop Avenue,
Ste-Foy, P.Q. G1W 3E4
(418) 656-0690

Dr. DONALD CARTER, CONSULTING ENGINEER

Dr. Carter, Donald - P. Eng.

OBJECTIVES/FUNCTIONS

Our firm specializes in mathematical modelization of ship motion in ice- covered waters. Our research topics include the determination of the ice forces acting on ship hulls and the icebreaking mechanism.

ACTIVITIES

"Ship resistance to continuous motion in level ice" TP-3679-E Research Project carried out for Transport Canada. Transportation Development Centre. The report presents an analysis of the ice failure mechanisms involved in breaking and moving through ice and presents a method for evaluating the ship resistance to continuous motion.

"Ice properties related to the icebreaking mechanism" in preparation for Transport Canada. Transportation Development Centre. The report the mechanical properties and failure mechanisms required for the determination of ice forces acting on ship hulls.

INFORMATION SOURCES AND SERVICES

Files are normally not accessible to outside researchers.

For further information contact Mr. D. Carter.

4-124-C

P.O. Box 154,
Musquodoboit Harbour, N.S. B0J 2L0
(902) 827-3244 (Office)
(902) 889-3425 (24 Hr.)

EASTERN MARINE SERVICES LTD. (EASTMAR)

Wallace, William G. - President

OBJECTIVES/FUNCTIONS

To provide specialized marine industrial model-making services to government, industrial and R & D groups.

To provide technical consulting and design services for small commercial craft.

ACTIVITIES

Eastmar provides the tools for other consulting and research groups to use in determining empirically-derived knowledge. We are a group of engineers who fabricate; our understanding of the testing process (in most cases) allows us to develop very cost-effective models with a minimum of required input from our clients.

INFORMATION SOURCES AND SERVICES

Files are oriented toward technical design and fabrication processes. They would be made available to non-competitive organizations. Costs would be compensation of time of Eastmar personnel spent with researcher.

4-125-C

EAST-WEST ENGINEERING DESIGN STUDIES REG
("East-West")

4990, Hampton Avenue,
Montreal, Quebec H3X 3P7
(514) 489-7709

Watson, Gordon G.

OBJECTIVES/FUNCTIONS

Soviet technical press reviewed for arctic technology and experience relative to ship design and operation. Abstracting service. Translations prepared. Literature searches undertaken.

ACTIVITIES

Compilation of documentation data-bases.

PUBLICATIONS

Abstracts of Soviet papers and articles circulated to subscribers.

55 St. Clair Ave. West,
Toronto, Ontario M5W 2J8
(416) 968-5314 - Telex: 065-28049

McLaughlin, J.L. - Manager,
Marine Planning and Economics

ESSO PETROLEUM CANADA MARINE DIVISION
A DIVISION OF IMPERIAL OIL LTD.

OBJECTIVES/FUNCTIONS
The marine transportation of bulk petroleum products and feedstocks.

ACTIVITIES
Owns, charters, and operates tankers in inland, coastal, and ocean trades.

INFORMATION SOURCES AND SERVICES
An operational reference Library for most Canadian and some foreign ports is maintained, together with marine and terminal operations manuals from several sources, including Esso.

Microfiche Library of all C.S.A. regulations plus library of other marine relevant regulation and codes, including some international. In-house data base of vessel performance history is proprietary.

Imperial Oil Limited, Business Information Centre (416) 968-4866, maintains a comprehensive library of technical and business data germane to all aspects of the oil industry, including marine and offshore.

Files are generally not available to outside researchers, but specific requests will be considered.

PUBLICATIONS
Esso Marine or Sous le Pavillon Esso. A history of Imperial's marine fleet from 1899 to 1980. Published in both official languages in 1980 to mark Company's centenary. Was widely distributed to public and school libraries. Now out of print and no longer available.

ADDITIONAL INFORMATION
Regional Offices:

Dartmouth, N.S.	(902) 424-7292
Montreal, Quebec	(514) 645-4959
Sarnia, Ontario	519) 339-2506

4-127-C

ESSO RESOURCES CANADA LIMITED (ERCL)

237 - 4 Avenue S.W.,
Calgary, Alberta T2P 0H6
(403) 237-2419 - Telex: 038-21381

Comyn, Malcom I.

OBJECTIVES/FUNCTIONS

Esso Resources Canada Limited is a wholly owned subsidiary of Imperial Oil Limited and conducts all the exploration and production activities, including all offshore work.

ACTIVITIES

Construction of artificial islands in Beaufort Sea, including caisson retained island; dredging; marine logistics; related environmental (ice, current, wave, wind, etc.) studies; related platform designs; marine vehicle and transportation studies.

INFORMATION SOURCES AND SERVICES

Library Information Centre
Contact: Tobe Odell, 237-4505.

Collection not available to individual outside users; will consider interlibrary loan of non-proprietary material through another library.

We participate in a union list of periodicals for Calgary Special Libraries.

PUBLICATIONS

Esso North.

900-400 Cumberland Street,
Ottawa, Ontario K1N 8X3
(613) 238-8791

EYRETECHNICS LIMITED

Eyre, T. Arnold - President

OBJECTIVES/FUNCTIONS

The evaluation, design, development and support of marine transportation and related systems.

ACTIVITIES

Canadian maritime transportation-related activities and projects undertaken by the company include:

- a world-wide survey of the demand for arctic vessel and marine research;
- the design and development of a semi-submersible catamaran, diving barge, a marine harvesting vessel, an auxiliary vessel, and various other ships and boats:
- life cycle material management support of various naval ships; and
- design of an electronic marine machinery health monitoring system.

INFORMATIONS SOURCES AND SERVICES

Eyretechnics Ltd. maintains an archive where there is a collection of company prepared reports, studies and technical data. Other information resources are kept in the library. Use of files or copies of information are available through Mr. Eyre at cost.

The company develops courses of any kind and organize conferences, meetings or other continuing education activity in the marine transportation and related fields, to meet customers' requirements.

ADDITIONAL INFORMATION

Regional Offices:

Suite 200, 11 Morris Drive,
Dartmouth, Nova Scotia, B3B 1M2
(902) 466-7843

525 Head Street,
Esquimalt, British Columbia, V9A 5S1
(604) 386-7701

4-129-C

Suite 2600,
600 de la Gauchetiere West,
Montreal, Quebec H3B 4M3
(514) 878-6500 - Telex: 055-60637

Yee, Fe L. - Library Technician

FEDNAV LIMITED

OBJECTIVES/FUNCTIONS

Fednav Limited together with its subsidiaries, engages in several forms of ocean transportation; shipowning; ship chartering for short and long term periods; multi-modal transport projects; tug and barge operations; and servicing of vessels and handling of cargo through terminals, agencies and ship management entities owned and operated by the group.

The company's objectives are to engage in and diversify its activities in the field of marine transportation, an area in which the group has built up expertise and relationships over the last 30 years. This diversification and development has been and will continue to be expanded in the water transportation field as ship-owner, operator and servicing manager and agent.

INFORMATION SOURCES AND SERVICES

The library consists of some 5,000 items in the areas of natural resources, Arctic, geophysical/ marine design, economics, offshore technology, and shipping.

A collection of technical and market reports produced by the firm is proprietary. Other materials held may be borrowed on application to the library technician, Mrs. Fe L. Yee.

4-130-C

FENCO ENGINEERS INC.
(Division of LAVALIN INC.) (FENCO)

33 Yonge St.,
Toronto, Ontario M5E 1E7
(416) 365-9955 - Telex: 06-23765
Saunders, T.F. - Senior Vice President

OBJECTIVES/FUNCTIONS

In the field of marine-related activities. Fenco's mandate within Lavalin is to provide planning and design services for marine projects nationally and internationally, including port facilities, wharves, breakwaters, terminals for all types of cargo, shipyards, off-shore structures, coastal and arctic engineering and shore protection works. Lavalin is one of Canada's leading engineering, procurement, construction management and consulting firms.

ACTIVITIES

Preparation of an *Arctic Marine Design and Construction Handbook* - a compendium of information and current practice relating to Arctic Marine Structures (Transport Canada Report TP 5727E). See entry: B-175.

Port Master Planning:

- Port of St. John's, Newfoundland
- Regional Ports of Nova Scotia
- Regional Ports of New Brunswick
- Port of Cornerbrook, Newfoundland
- Canso Port, Nova Scotia
- Port of Saint John, New Brunswick
- Port of Algiers - Republic of Algeria.

Port Facilities Design and Planning:

- Industrial Port Facilities, Island of Leyte - Philippines
- Shipyard and Drydock, Diego Suarez - Madagascar
- Feasibility Study Super Tankers, St. Lawrence River - Canada
- Feasibility Study and Design, Bauxite Wharf Reconstruction - Trinidad
- Review Masterplan/Masterplan, Feasibility Study and Detailed Design of Four Ports in Indonesia: Teluk Bayur, Panjang, Lhok Seumawe and Sibolga
- Fourth IBRD Ports Project (16 Ports) - Philippines.

Bulk Material Marine Terminals - Detail Design:

- Iron Ore and Coal, Steel Company of Canada, Lake Erie - Canada
- Multi-Material Handling System, Port of Jubail - Saudi Arabia
- Coal Handling System, Sydney - Canada
- Gypsum Ore, Port Tupper - Canada
- Asbestos Ore, Deception Bay - Canada

Marine Oil Terminals - Detail Design:

- Marine Oil Terminal, Golden Eagle - St. Romauld - Canada
- Marine Oil Terminal, Gulf Oil - Dartmouth - Canada
- Marine Oil Terminal, Imperial Oil - Halifax - Canada
- Marine Oil Terminal, Shell Oil - Oakville - Canada
- LNG Terminal - Taglu - Canadian Arctic.

Ferry Terminal Design:

- Railway Ferry Terminals - Baie Comeau and Mataine - Canada
- Car and Truck Ferry Terminal - Saint John - Canada
- Car and Truck Terminal - Tobermory - Canada
- Car and Truck Terminal - Vancouver - Canada
- Automobile Reception and Import Terminal - Vancouver -Canada.

Transportation Studies:

- Regional Transport Studies for the following countries: Ghana, Ivory Coast, Togo, Benin, Volta and Niger
- Eastern Quebec Transport Study - Canada
- Jamaica National Transport Study - Jamaica
- Benin Transport Study - Republic of Benin
- Port Traffic Study - Province of Quebec - Canada.

FENCO ENGINEERS INC.
(Division of LAVALIN INC.) (FENCO)

INFORMATION SOURCES AND SERVICES

Fenco's information centre offers access to an extensive information bank, containing more than 16,000 published and unpublished sources of reference. Virtually all aspects of engineering are covered, including the field of transportation and, more specifically, marine transportation and technology. The types of materials collected include standard scientific and engineering texts, periodicals, in-house reports, specialized technical reports, current legislations and regulations, standards and specifications, cartographic data, and corporate, government and institutional annual reports. The information centre's facilities provide access to more than 200 bibliographic data bases from commercial, academic and government sources.

The information centre's collection and services are generally not available to outside users, but individual access requests may be granted at Fenco's discretion.

Access: by personal visit.

No fee is charged for approved use.
Direct access requests to:

Mrs. A. Croxford Chief Librarian,
Fenco Engineers Inc.
33 Yonge Street, Toronto Ontario M5E 1E7
(416) 365-9955, Ext. 2232

ADDITIONAL INFORMATION

Branch offices:

Fenco Lavalin Corp.
Suite 1100, 1140 West Pender Street
Vancouver, B.C. V6E 4G1
(604) 669-2444

Fenco MacLaren Shawinigan Engineers Inc.
909 5th Avenue S.W.
Calgary, Alberta T2P 3G5
(403) 294-2100

Fenco Engeneers Inc.
421 Bay Street, Station Tower
Sault Ste. Marie, Ontario P6A 1X3,
(705) 256-8407

Fenco Engineers Inc. Royal Bank Centre,
90 Sparks Street Suite 330,
Ottawa, Ontario K1P 5B4,
(613) 238-1906

Fenco Engineers Inc.
500 Beaverbrook Court, P.O. Box 1238
Fredericton, N.B. E3B 5C8
(506) 454-4447

Fenco Shawinigan Engineering Limited,
Suite 1020, Cogswell Tower,
2000 Barrington Street,
Halifax, N.S. B3J 3K1
(902) 421-3200

Fenco Newfoundland Limited,
I.C.O.N. Building, Kenmount Road
P.O. Box 8246, Station "A",
St. John's, Newfoundland A1B 3N4
(709) 754-1480

1378 Bedford Highway,
Bedford, Nova Scotia B4A 1E2
(902) 835-1217 - Telex: 019-22888

FOCAL MARINE LIMITED

Smith, Graham A. - Executive Manager

OBJECTIVES/FUNCTIONS

Research and development into the use of fibre optic technology in marine surface and subsurface applications. Fibre based marine sensor development. Provision of systems engineering consultation.

ACTIVITIES

Development of a shipboard fibre optic data bus.

Fibre optic cable testing procedures and apparatus. This facility is available to outside interests.

Development of standards for fibre optic installations.

INFORMATION SOURCES AND SERVICES

Fibre optic standards for marine and general use, technical reports on the application of fibre optics in transportation, supplier information.

Most titles are available. Fees may be involved depending on material needed and time required to provide.

Courses on fibre optic theory, practice and applications provided twice per year. Open to anyone. Write to company to be placed on mailing list for announcements.

Contact Dr. Barry Paton or Mr. Terence Dwyer.

PUBLICATIONS

B.E. Paton. *Application of fibre optics to marine transportation.* Bedford, N.S.: Seimac Ltd. 1983 (TP 4840).

GEOCON INC.
(Division of LAVALIN Inc.)

3210 American Drive,
Mississauga, Ontario L4V 1B3
(416) 673-1664 - Telex: 06-968801
Sullivan, Robin - Division Manager

OBJECTIVES/FUNCTIONS

Geocon is a fully integrated Canadian geotechnical engineering company. The firm has extensive experience in all aspects of geotechnical and related fields of activity. Areas of expertise include: arctic engineering (ice testing, permafrost and thermodynamic design for structures, dams, platforms, pipelines), marine site investigations (near shore and deep offshore drilling, sampling and testing for ports, wharves, causeways, pipelines and cables, platforms).

Geocon Offshore, the marine operations division of Geocon, offers a full range of marine geotechnical engineering services.

Geocon owns and operates drilling, sampling and testing equipment that has been adapted to or designed for overwater or submarine work.

ACTIVITIES

Projects include:

Geotechnical investigations and foundation design for the Eddy Point and Point Tupper, N.S. Supertanker Ports; geotechnical and seismic studies for L.N.G. ports at Gros Cacouna, P.Q. and Pt. Melville, N.S.; site investigation and design programmes for L.N.G. Ports at Bridport Inlet and King Christian Island, N.W.T. and at three sites in B.C.; shipyard studies at Halifax, N.S., Saint John, N.B., Sorel, P.Q. and on Vancouver Island; foundation investigation and design studies for Aids to Navigation light piers and towers along the Saint Lawrence Seaway and on the East Coast; dredging studies in the Great Lakes, the MacKenzie River, the Saint Lawrence River and at ports including Halifax, N.S., Saint John, N.B., Sydney, N.S., St. John's, Nfld., Tuktoyaktuk, N.W.T. and Kitimat, B.C.; offshore pipelines in the Arctic Islands, Great Lakes, Saint Lawrence River and in the Atlantic Ocean; container terminals at Saint John, N.B., Halifax, N.S., Trois Rivieres and Montreal, P.Q.; offshore platforms investigations on the Grand Banks and Beaufort Sea.

INFORMATION SOURCES AND SERVICES

Files retained at our offices pertain to specific projects completed on a commercial basis for public and private sector clients. They would include field information, laboratory test and analytical data, research and design details and final reports and references on harbour, wharf, dredging, causeway and offshore structure studies. Internal files are kept on such items as suppliers of marine plant, oceanographic and marine engineering equipment, marine services organizations and so forth. Information is maintained on projects carried out across Canada and in the Arctic.

Geocon maintains a comprehensive geotechnical library which includes related marine publications.

Files would only be available through receipt of prior authorization from our original client. Where approval for file review by the client has been received, actual costs, associated with providing the data would be assessed.

Geocon occasionally conducts seminars relative to the practice of marine geotechnical engineering, however these are generally for a restricted audience.

ADDITIONAL INFORMATION

Regional offices:

4 MacDonald Ave.,
Dartmouth, N.S. B3B 1C5
(902) 423-7224

GEOCON INC.
(Division of LAVALIN Inc.)

ADDITIONAL INFORMATION (cont'd)

500 Beaverbrook Crt.,
Fredericton, N.B. E3B 5X4
(506) 566-8967

1130 Sherbrooke St. W.,
Montreal, P.Q., H3A 2R5
(514) 288-2957

584 Falconbridge Rd., Sudbury,
Ontario, P3A 4R7
(705) 566-8701

909 - 5th Avenue, S.W.,
Calgary, Alta., T2P 3G5
(503) 294-2100

Suite 600, 750 West Pender St.,
Vancouver, B.C., V6C 2V5
(604) 669-9595

P.O. Box 41, Station M,
Halifax, Nova Scotia B3J 2L4
(902) 422-6482 - Telex: 019-23514

GEOMARINE ASSOCIATES LIMITED

Stewart, John - President

OBJECTIVES/FUNCTIONS

To perform marine geological and geophysical and survey, interpretation and research. Applications relevant to the marine transportation industry are: hydrographic surveys, harbour and port development studies, pre and post- dredging surveys, and location of wrecks, pipelines and other submerged objects.

ACTIVITIES

Sidescan sonar survey, St. Pierre Bank, Grand Bank for Petro Canada: joint venture with Secunda Marine Ltd. and Dominion Diving Ltd. Geomarine provided sidescan and operators for survey to locate wreck of the Seaforth Jarl and its cargo on K4 anchor chain.

Sidescan sonar search for Ocean Ranger: Geomarine's sonar was used to search for the wreck of the Ocean Ranger until damaged on an anchor cable. Then Geomarine specially mounted a Wesmar System on a Mobil supply boat. The Wesmar established first contact with the wreck.

Iceberg draft measurement: for various oil companies: for four years (1980- 83), the draft and shape of each iceberg was measured and they photographed above water. In 1982, iceberg towing was also monitored.

Numerous wellsite surveys and other geologic surveys which include detailed bathymetry data as well as seafloor geology.

INFORMATION SOURCES AND SERVICES

A series of consultant reports arranged chronologically. Statistics are collected on a project by project basis by measurement on location over a short time. These are not stored centrally but with project material.

Consultant reports are prepared for clients and confidential in nature. Access to the scientific reprints will be decided on an ad hoc basis.

ADDITIONAL INFORMATION

Regional office:

Geomarine Associates (Nfld and Lab) Ltd.
The Murray Premises, Harbour Drive,
St. John's, Newfoundland A1C 6H1
(709) 754-1884

P.O. Box 8143,
St. John's, Newfoundland A1B 3M9
(709) 364-6015 Telex: 016-4596

GEONAUTICS LIMITED

Hodgson, G.J. - General Manager

OBJECTIVES/FUNCTIONS

Marine geological and geophysical services with emphasis on the utilization of seismic systems for regional surveys, wellsite investigations and pipeline or cable routing. Services also include nearshore surveys related to harbour development.

ACTIVITIES

Port development - shallow surveys related to definition of bathymetry and nearbottom geology as these may relate to future developments (e.g. harbours; offshore platform construction sites).

Tanker routing surveys.

ADDITIONAL INFORMATION

Regional office:

Argo Building, Bedford Institute of Oceanography
P.O. Box 851,
Dartmouth, Nova Scotia B2Y 3Z5
(902) 463-4884

112 Kent Street,
Place de Ville, Tower B, 15th Floor,
Ottawa, Ontario K1P 5P2
(613) 230-6201 - Telex: 053-4499

GERMAN AND MILNE INCORPORATED

Klop, C.G. Neil - President

OBJECTIVES/FUNCTIONS

German & Milne, a long-established firm of marine transportation consultants, naval architects and marine engineers, provides a wide range of services including those traditionaly associated with ship and vessel design.

ACTIVITIES

The Company's professional activities include design studies, conceptual and preliminary design, contract design plans and specifications, detail ship and working drawings, damage surveys and repair specifications, conversions, lenghtenings, etc. The Company performs appraisals and valuations, as well as detailed cost estimates for new construction.

Senior members of the Company have frequently been engaged to offer expert testimony in litigation.

The Company conducts many studies leading to the selection of the optimum choice of vessel, technical feasibility studies, risk studies, machinery selection studies, structural and vibration analysis etc.

In line with its policy the Company offers supervision of construction services, field inspection, assistance to owners in analysis of bids.

Designs prepared by German and Milne include many major icebreakers, research vessels, hydrographic vessels, tugs, ferries of all types, submarine cable repair ship, patrol vessels, suction and bucket dredgers, and special purpose vessels of all types.

German & Milne has established itself as innovative, as well as practical, having developed and installed the world's first bow thruster (Princess of Vancouver) and jet thruster system (William Carson). Recently the Company has developed and tested a shipboard strain monitoring system to warn navigating personnel of excessive hull structure exposure to icebreaking, or slamming related stresses.

Special projects of the Company recently have included design and testing of air cushion vehicles for icebreaking.

Selected projects:

- Contract Design plans/specifications e.g. Polar Class 8 icebreaker
- Design and Supervision of Construction - Gulf Canada Beaufort Sea support vessels
- Field Inspection and Engineering Supervision - Port aux Basques vehicle and passenger ferry CARIBOU
- R&D - Development of a concept for SWATH icebreaking tankers - Field trials and analysis of an air cushion icebreaker
- Data Gathering Systems - Designed, installed and tested an extensive computer directed scientific data gathering system on M.V. ARCTIC
- Detail working plans and ship drawings - current project for NARWHAL midlife refit
- Electronic Strain monitoring system - developed NAWS - built and tested.

INFORMATION SOURCES AND SERVICES

Data files are not accessible except by arrangement. Access may be by purchase of file copy, or by personal visit. Each case is on its merits and depends on the material the researcher may wish to access.
The company maintains a library in its Ottawa head office.

GERMAN AND MILNE INCORPORATED

PUBLICATIONS

All produced for clients on a fee basis and are not available to general public except when specially arranged. Studies produced for TDC and other government departments are listed in government publications and are available through the appropriate department.

Newsletter. 4/year

ADDITIONAL INFORMATION

Regional office:

4999 ouest, rue Ste Catherine
Suite 210
Montréal, Québec H3Z 1T3
(514) 487-0701

4-136-C

Suite A-06,
404 St. Dizier St.,
Montreal, Quebec H2Y 3T3
(514) 845-1261 - Telex: 055-61405

GERMAN MARINE INC. (G.M.I.)

Dartnall, John

OBJECTIVES/FUNCTIONS

To provide:

Marine Design and Engineering

Marine Survey Services

Marine Data Management

ACTIVITIES

Due to the nature of GMI and their Associates' work the combined experience in ship design, modification, conversions, alterations, preparation of specifications, drawings, construction and support documentation is too numerous to detail, recent corporate experience and contracts are:

- machinery room engineering studies for the DDH 280 TRUMP Project, Pratt and Whitney;
- design of a sonar boom for the CCGS NICOLET and BEAUPORT, Canadian Coast Guard;
- stability and ferry configuration studies for CN Marine;
- Data Management for Canadian Government, Special Recovery Capital Projects (current committment (1984) 1.7 billion $) covering a wide variety of major projects;
- fleet study of Firefighting and Safety for Transport Canada Coast Guard including the preparation and printing of a *Firefighting and Safety Manual* (1984);
- design of the Mid-Life Modernization of the CCGS SIMON FRASER (1984), Canadian Coast Guard;
- as fitted drawings CCGS NORMAN McLEOD ROGERS, Versatile Vickers;
- preparation of workmanship standards, Canadian Patrol Frigate Project;
- complete ship design, seaway and ocean going cargo vessels;
- preparation of technical data packages; (1983),
- engineering and management services for fleet support, including ship checks and preparation of ship alteration packages;
- translation of mission and ship requirements into conceptual, ship designs;
- integrated engineering for complete conceptual, preliminary and contract design of ships;
- preparation of ship definition specifications including contract specifications for building and overhaul;
- ship system optimization and trade-off analysis;
- classification surveys for N.K.K. and Bureau Veritas;
- naval architecture studies including arrangements, weights and hydrostatics, hydrodynamics, seakeeping, hull form optimization, and roll stabilization analysis;
- structural design and optimization studies;
- design of hull form, hydrostatics, hydrodynamics, structures, and fluid systems;
- program management, planning and implementation;
- ship cost estimates and design budgeting.

GERMAN MARINE INC.
(G.M.I.)

INFORMATION SOURCES AND SERVICES

Louise McGillis, library technician.

Presently setting up a resource center which will include monographs and periodicals specifically related to the marine industry.

Also may have access to on-line searching (ie: CISTI).

At the present time the library is not accessible to outside users.

ADDITIONAL INFORMATION

Regional Offices:

5 Sussex Place
St. John's, Newfoundland
A1B 2E4
(709) 753-4067

85 Albert Street
Suite 600
Ottawa, Ontario
K1P 6A4
(613) 237-6445

3151 Wharton Way,
Mississauga, Ontario L4X 2B6
(416) 675-7341

GOLDER ASSOCIATES

Heffernan, F.

OBJECTIVES/FUNCTIONS

Golder Associates is a Canadian-based consulting engineering company specializing in the fields of geotechnical and associated mining engineering.

ACTIVITIES

Typical projects have included investigations for building foundations, bridges, tunnels, and other structures, dams, industrial development, docks, harbours, offshore structures, and others.

INFORMATION SOURCES AND SERVICES

Selected data files available upon request.

PUBLICATIONS

Corporate brochure.

Articles in the technical press.

ADDITIONAL INFORMATION

The company maintains offices internationaly in Australia, England and the United States as well as the following Canadian locations:

Kamloops, Kelowna, Vancouver - B.C.

Calgary - Alberta.

Saskatoon - Saskatchewan.

London, Ottawa, Windsor - Ontario.

Halifax - Nova Scotia.

St. John's - Newfoundland.

P.O. Box 130,
Calgary, Alberta T2P 2H7
(403) 233-4000 - Telex: 038-24551

GULF CANADA RESOURCES INC. (GCRI)

Hnatiuk, John - Manager,
Environmental Engineering,
Frontier Development Division

OBJECTIVES/FUNCTIONS

Gulf Canada Resources Inc. explores for hydrocarbons in Western Canada, the Mackenzie Delta, Beaufort Sea, Arctic Islands and the East Coast of Canada. It is the operator of three significant offshore oil discoveries in the Beaufort Sea. Through its subsidiary BeauDril, it owns and operates a floating drilling unit and mobile steel caisson in the Beaufort Sea. These are supported by two large Class IV icebreakers and two large Class IV icebreaking supply vessels.

ACTIVITIES

Gulf Canada Resources Inc. and its subsidiary BeauDril operate four large Class IV icebreaking vessels in the Beaufort Sea in support of offshore drilling operations. Performance trials have been conducted on these vessels. These tests complement model basin tests and analytical predictions.

INFORMATION SOURCES AND SERVICES

Documentation of performance trials of the *Terry Fox* icebreaker and the *Ikaluk* icebreaking supply vessel are held in our file room and are available for purchase. The model basin tests are also documented and available for purchase.

Librarian: Susan Parkinson (403) 233-3804.

PUBLICATIONS

Three recent technical papers are available on icebreakers and icebreaking supply vessels.

4-139-C

260 Lesmill Road,
Don Mills, Ontario M3B 2T5
(416) 447-5535 - Telex: 06-966807
Telecopier: 447-6015

Firmin, A.

H. G. ENGINEERING
DIVISION OF H.G.E. INC. (H.G.E.)

OBJECTIVES/FUNCTIONS
H.G. Engineering offers a wide range of engineering services, studies, facilities design, project management etc.

ACTIVITIES
Heat transfer in ships. The preparation of computer software for the analysis of heat flow and temperatures in ships hulls.

Ice impact on ice-breaker bows. Generation of a program for the calculation of bow forces due to ice impact.

INFORMATION SOURCES AND SERVICES
Internal technical library. Information is proprietary, but the company is prepared to answer specific requests concerning its area of expertise.

PUBLICATIONS
"Modelling of Heat Flow in Ships" prepared for Transport Canada, T.D.C. (TP 5232).

4-140-C

221 - 18 Street S.E.,
Calgary, Alberta T2E 6J5
(403) 248-4331 - Telex: 03-826717

HARDY ASSOCIATES (1978) LTD.

Dowse, Brian E. W.

OBJECTIVES/FUNCTIONS

Consulting engineering and professional services in the areas of geotechnical engineering, environmental sciences, materials engineering and analytical chemistry.

ACTIVITIES

In recent years Hardy Associates has become extensively involved in resource development and transportation projects in the Canadian Arctic. This experience has been primarily responsible for leading the company into the area of offshore technology.

INFORMATION SOURCES AND SERVICES

Data files are accessible by appointment.

PUBLICATIONS

Several articles have been published in the technical press.

ADDITIONAL INFORMATION

Other branch offices engaged in offshore projects are located in Vancouver, B.C., Dartmouth, Nova Scotia, and St. John's, Newfoundland.

Suite 310,
77 Metcalfe Street,
Ottawa, Ontario K1P 5L6
(613) 233-6583 - Telex: 053-4316

HOWE INTERNATIONAL LIMITED

Howe, William H.

OBJECTIVES/FUNCTIONS

Provision of consulting engineering services to the marine industry for bulk materials handling,port and harbour development, industrial buildings, infrastructures, pollution abatement and special projects. We offer project planning, feasibility and viability studies, appraisals, detailed design, cost estimates, construction management.

ACTIVITIES

Design and construction management of marine facilities to serve grain terminals on the St. Lawrence River and Seaway, Great Lakes, Hudson's Bay and the West Coast of Canada.

Construction management of the harbour at Port Cartier, Quebec. To accomodate iron ore terminal and grain terminal.

Construction management of the iron ore export terminals at Sept Iles, Quebec; Port Cartier, Quebec; Contrecoeur, Quebec; Pointe Nore, Quebec; Wabana, Newfoundland.

Study for the development of a master plan for the Port of Vancouver.

Design and supervision of installation of the mechanical and electrical equipment for the Arctic Vessel Marine Research Institute in St. John's, Newfoundland.

Design and construction management of a salt export terminal at Magdalen Islands, Gulf of St. Lawrence.

INFORMATION SOURCES AND SERVICES

Files contain technical periodicals covering marine transportation aspects, project descriptions, etc. Geographical areas covered are all of Canada and several overseas countries. We also have numerous project reports and descriptions which contain data and geophysical information.

Some files are not available to outside researchers, as the information and data contained therein cannot be released to a third party without the permission of our clients. Some files may be available against payment of a fee, depending on the nature of the information.

ADDITIONAL INFORMATION

Regional offices:

C.D. Howe Eastern Ltd. Montreal
(514) 937-2381

C.D. Howe Central Ltd. Thunder Bay
(807) 344-7218

C.D. Howe Western Ltd. Vancouver
(604) 688-8301

4-142-C

156 Front Street West,
Toronto, Ontario M5J 2L6
(416) 596-1930
Martin, Beth - Librarian

IBI GROUP

OBJECTIVES/FUNCTIONS

A consulting firm of architects, planners and transportation engineers which has performed various projects in the marine transportation field including port facilities feasibility studies, shipping policy studies, operational studies of canals and locks, studies of alternative vessel configurations and physical distribution studies including analyses of marine shipping modes.

INFORMATION SOURCES AND SERVICES

A library of about 10,000 items with a minor emphasis on the marine mode. Inter-library loan. Outside researchers may contact the librarian for an appointment. Clientele reports are proprietary.

4-143-C

2601 Murray Street,
Port Moody, British Columbia V3H 1X1
(604) 937-3421 - Telex: 04-353554

INTERNATIONAL SUBMARINE ENGINEERING LTD. (ISE)

MacDonald, Michael D.

OBJECTIVES/FUNCTIONS

To design and construct underwater vehicles (both manned and unmanned) for scientific research, governmental bodies, commercial subsea operators. To give engineering and field support to all operators. Vehicles have demonstrated uses in pipeline inspection, platform inspection, leak detection, under ice operations, salvage, and debris survey. In addition, both a radio controlled and acoustically controlled vehicle has been made. The Port Moody plant has a machine shop, welding shop, electronic shop and two drawing offices.

ACTIVITIES

Over 100 vehicles have been supplied to both the commercial and military markets, with the emphasis on the international petroleum market. Vehicle types range from the 6 h.p. Ross to the 60 h.p. Hysub. One system, the Hydra has been built to support drilling operations in 2500 meter water depths. Development work is proceeding on a vehicle intended for mine countermeasures work.

INFORMATION SOURCES AND SERVICES

Technical data relating to operations available upon request from all group branches.

PUBLICATIONS

Dolphin - Improvement in Survey Vehicles. Sea Technology - January, 1984.

ROV Drilling Support for Deep Water. OTC - May, 1984.

Remotely Operated Vehicles: Trends and Technology. Ocean Industry - May, 1984.

Deep Tech. Equinox - 1982.

Design of a One-Atmosphere Submersible/Diving System. OTC - 1982.

ADDITIONAL INFORMATION

Associated Companies:

I.S.T. Ltd.
2733 - 152nd Avenue N.E.
Redmond, Washington 98052
(206) 883-6171
Mr. Jim Kosalos
(Deep water acoustics, Imagery)

I.S.E. (GULF)
3915 B Dacoma Street
Houston, Texas 77092
(713) 681-6923
Mr. Doug Hernandez
(Oil field support)

RSI Ltd.
(Robotic Systems International Ltd.)
9865 W. Saanich Rd.
R.R. 2, Sidney, B.C. V8L 3S1
(604) 656-0834 Telex: 04-353554
Mr. Jack Wilson
(Robotics, Hazardous Materials)

RMS Industrial Controls
1100 Lansdowne
Port Coquitlam, B.C.
Mr. Peter Borman
(604) 464-2315
(Radio telemetry)

Energy Conversion Systems Inc.
2061 Murray Street
Port Moody, B.C. V3H 1X1
(604) 937-3421 Telex: 04-353554
Mr. A.G. MacDonald
(Thermo-nuclear power, thermo global energy).

Lavalin Centre,
909 5th Avenue S.W.,
Calgary, Alberta T2P 3G5
(403) 294-2100 - Telex: 03-827910

LAVALIN OFFSHORE INC.

Kivisild, Hans R.

OBJECTIVES/FUNCTIONS

Lavalin Offshore Inc. is the specialist division that focuses the professional and technical skills Lavalin provides to Canada's offshore resource development industry.

Lavalin is a wholly Canadian-owned engineering organization providing a wide range of consulting, design and engineering, procurement and construction (EPC) services to industry and government.

Lavalin's offshore skills are contributed by over 5000 professionals, highly-trained technicians and support personnel working in Lavalin's specialized divisions and joint ventures with world-leading offshore specialists.

ACTIVITIES

Port Master Planning: several projects including the development of an overall master plan for the port of Saint John, New Brunswick.

Port Management: several projects including port management and operations study for Sabah Ports Authority, Kota Kinabalu, Sabah, Malaysia.

Economic and Environmental Studies: several environmental projects include wave climate prediction and analyses for offshore oil companies. Ice loads were developed for the first arctic bulk cargo terminal at Deception Bay, Ungava, Quebec.

Port Facility Design: the many projects include planning and design of port facilities for Dupon Bay site, Leyte, Philippines.

Bulk Terminals: several projects include complete conceptual designs and detailed engineering for bulk material receiving wharf for the Steel Company of Canada Limited at Nanticoke.

Marine Oil Terminals: among many projects, complete environmental investigation and engineering has been provided for the first marine oil terminal to operate year round in the heavy ice of the St. Lawrence River at St. Romuald.

Ferry Terminals: among many projects, complete engineering was provided for ferry terminal at Saint John, New Brunswick.

Marinas and Small Craft Ports: several projects include a study of small craft harbour system in British Columbia.

INFORMATION SOURCES AND SERVICES

Files for internal use.
Information available from Maria Dewaele or Ellen Wong.

PUBLICATIONS

Lavalin - house organ.

ADDITIONAL INFORMATION

Regional offices: Lavalin Offshore Inc.

I.C.O.N. Building
58 Kenmount Road
P.O. Box 8246 - Station "A"
St. John's, Newfoundland A1B 3N4
(709) 754-1480

Cogswell Tower, Suite 1020
2000 Barrington Street
Halifax, Nova Scotia B3J 3K1
(902) 421-3200.

2680 Queensview Drive,
Ottawa, Ontario K2B 8J9
(613) 820-9720 - Telex: 053-4129
Evans, Sally A. - Marketing Administrator

LEIGH INSTRUMENTS LIMITED

OBJECTIVES/FUNCTIONS

Design, development and production of high performance, high quality electronics equipment.

ACTIVITIES

Historically, Leigh has been involved with Vessel Traffic Management System in Canada for over five years. There are currently two operational installations in Les Escoumins, Quebec and Vancouver, B.C. Activity in the Canadian marine transportation market is not active at the present time except for ongoing market intelligence gathering.

Development of SHINCOM* (Shipboard Integrated Interior Communications System) for the Canadian Patrol Frigate.

INFORMATION SOURCES AND SERVICES

Project files are proprietary.

Betty Robertson, Librarian, Ext. 304.

ADDITIONAL INFORMATION

Leigh developed a comprehensive VTM System definition for CCC for the Port of Hong Kong. This data may be available.

Suggested contact is Mr. J.S.D. Wharton of CCC/DSS.

Suite 1201,
625 President Kennedy,
Montreal, Quebec H3A 1K2
(514) 284-9666
Telex: 05-25152 Liquitrans Mtl.

Capt. Iskandar, George

LIQUITRANSPORT DISTRIBUTION INC. (LTD)

OBJECTIVES/FUNCTIONS

This firm's activities relate to the transport of liquid cargoes and include marine management of vessels, research and development of new marine systems, design and consultations, agency and chartering.

ACTIVITIES

Operations research and development.

Management and operations of vessels.

Transport and distribution of liquid cargoes.

Chartering and brokerage of liquid cargoes.

Cargo and vessel general (and particular) agents.

The firm acts as liquid cargo chartering brokers and agents by lending vessels to cargo owners and cargoes to shipowners. Land distribution is also arranged through bills of lading.

INFORMATION SOURCES AND SERVICES

Files are held for all Canadian ports and U.S. Great Lakes ports in the area of port capabilities (restrictions, facilities, costs, etc.) operational data, performance records (cargo flow, statistics, etc.), legislative records procedures, and cargo operational logistics. The firm is also linked to international houses and acts as an international cargo or ship broker.

The data base is not generally available to anyone outside the organization and its clientele. A specific request will, in most cases, be handled if it does not border on sensitive information. A case can be prepared at a fee.

ADDITIONAL INFORMATION

Regional office:

Liquitransport Distribution and Chartering Ltd.
2 Bloor St. East, Suite 2612
Toronto, Ontario M4W 1A8
(416) 964-3966

4-147-C

LITTON SYSTEMS CANADA LIMITED

25 Cityview Drive,
Rexdale, Ontario M9W 5A7
(416) 249-1231 - Telex: 06-989406

Bell, S.F.

OBJECTIVES/FUNCTIONS

Litton Systems Canada Limited (LSL) is a manufacturer and systems integrator of state-of-the-art electronic, avionic and marine systems.

ACTIVITIES

Automated data link plotting systems; command control and communication systems for transferring of tactical data between ships.

Automated load monitoring systems for ships; manufacturing and maintenance.

Computer modelling for large scale marine applications.

Marine inertial navigation systems (marine gyro compasses).

Marine navigation training simulator systems.

Tribal update modernization program; The refitting and complete overall of all auxilliary systems and propulsion machinery for tribal class destroyers.

INFORMATION SOURCES AND SERVICES

Rose Griska
Engineering Library
(416) 249-1231, Ext. 613

The company maintains an extensive engineering library containing over 2500 tests and more than 4000 technical reports, periodicals, etc. ILL available. Internal use only.

ADDITIONAL INFORMATION

Regional offices:

Litton Systems Canada Limited
220 Laurier Ave. W.
Suite 730
Ottawa, Ontario K1P 5Z9
(613) 236-2358

Suite 70 - 400 St. Antoine St. W.,
Montreal, Quebec H2Y 1J9
(514) 849-4291 - Telex: 05-268646

Leighton, T.S.,
Senior Principal Surveyor for Canada
Parsons, N.R.,
Administration Officer for Canada

LLOYD'S REGISTER OF SHIPPING (LRS)

OBJECTIVES/FUNCTIONS

"...an independent, non-commercial society...to provide a technical inspection and advisory service, primarily for ships..." as well as "...engineering projects of many kinds both marine and non-marine".

"Classification by Lloyd's Register is accepted by owners, underwriters, charterers and national authorities as a guarantee of structural and mechanical efficiency. Ships of all types are built to class and come under survey from the time of plan approval up to final completion trials. To maintain class, ships must be periodically inspected throughout their service file... Classification standards are published in the form of rules and represent a combination of carefully analysed experience and theoretical and practical research."

"As a separate service distinct from classification, the Society is prepared to draw up tender specifications for new constructions and major conversions and to follow this by full-time or part-time supervision of the work to ensure the technical requirements of the agreed specifications are met." Is "assigns load lines, safety equipment and other statutory certificates on behalf of many governments", also it "issues tonnage certificates and approves grain-loading plans and stability calculations".

"The Society's **Offshore Services Group** is responsible for the certification and classification of all types of fixed and mobile drilling and production platforms."

Other Society services include classification of yachts, survey of submersibles and underwater habitats, inspection of the following equipment: dock cranes, port handling devices, dock gates, and syncrolift and floating docks.

ACTIVITIES

The Society has a technical staff of approximately 1925 Surveyors with offices all over the world, with the exception of Russia and China although surveys in China are carried out from Hong Kong.

The surveyors are qualified naval architects, marine engineers, electrical engineers, metallurgists and other specialists available to provide inspection and technical advisory services worldwide.

INFORMATION SOURCES AND SERVICES

The Shipping Information Centre. Lloyd's Register of Shipping and Lloyd's of London are two quite separate organizations performing distinct functions. *Lloyd's Register of Shipping* is an independent, international ship classification society, and *Lloyd's of London* is an international insurance market, providing certain collective services for the underwriters who operate independently within its framework. The shipping information services which each has developed independently, and which are now being linked in the general interest, form the only sphere in which the facilities of the two organizations are coordinated.

Main Files:

New Construction File. Provides detailed information of all known, propelled sea- going merchant ships of 100 gross tonnage and above, and all ships to be classed with Lloyd's Register, on order or under construction throughout the world.

Updated daily from a variety of sources, additional detailed reports are received from over 250 worldwide offices of Lloyd's Register, thus ensuring that data is as accurate and comprehensive as possible. This file is used to produce the authoritative *Lloyd's Register Merchant Shipbuilding Returns*.

LLOYD'S REGISTER OF SHIPPING (LRS)

INFORMATION SOURCES AND SERVICES (cont'd)

Register Book File. Gives information on ship characteristics. Accurate and comprehensive information is held on over 76,000 known, propelled sea-going merchant ships of 100 gross tonnage and above, including all ships presently classed with Lloyd's Register.

Updating of the file is carried out daily in a process which incorporates over 2,000 validity checks. The file provides a wide range of information ranging from details of registration, tonnages, technical data on both hull and engines to special features. It is information which could prove invaluable to any shipping related service, in assessing, for example, the market potential for new, or existing products.

The Shipowner File is very much a complementary information service to the data held in the *Register Book* and *New Construction Files*. It provides inquirers with the full postal addresses of all shipowners and managers, together with telephone and telex numbers. This file also contains all the names of ships owned and managed by each company, together with a limited range of related ship characteristics such as ship type, flag, tonnage, etc.

The file has been expanded to provide extensive information on parent companies and their relationships to registered owners and managers. A particularly useful feature is the ability to analyse by nationality.

Such is the flexibility of our computer storage techniques that the schedule of owners and managers can be originated and listed by country of residence, town or even street, a feature which can make the *Shipowner File* invaluable as the source of an accurate and reliable mailing list.

Shipping Movement File. The file comprises over 32,000 merchant ships currently engaged in ocean-going trade. Data is updated some 6,000 times each day, seven days a week, of which 4,000 represent fresh movement information. In just one year (and voyage histories are available back to 1976) over 1 1/2 million movements are recorded, while additional information is stored on previous names, flag, ship type, etc.

The *Lloyd's Register Identity Number* of each ship acts as a cross-reference to other LSIS files, ensuring their complete compatibility.

As with all the files, the service is tailor-made to suit requirements and is available on a regular or ad hoc basis. For example, selections could include movements of specific ships, movements over a given period or area, or movements of ships of a particular flag.

Casualty File. The computerized system holds comprehensive details of reported serious casualties (including total losses) to all known, propelled sea-going merchant ships of 100 gross tonnage and above since 1978, plus all reported incidents (serious and non serious) to tanker types since 1976. Also included are records of ships broken up not consequent upon casualty.

The manual file however, goes back to 1952, and covers all marine casualties reported in 'Lloyd's List', categorized into incident type, such as groundings, fires, collisions, machinery trouble and weather damage.

Listings and/or statistical analyses may be output to any combination of parameters specified by clients.

Technical Records File. Contains records of all ships classed with Lloyd's Register built since 1960.

LLOYD'S REGISTER OF SHIPPING (LRS)

INFORMATION SOURCES AND SERVICES (cont'd)

Specifically the file consists of basic technical data on each ship, together with details of defects and damages suffered by various components. Continually updated from surveyors' reports, it includes causes where known, and recommended repairs. Some of the data is confidential, but investigations in general terms concerning in-service behaviour of ships and machinery can be carried out. File contains confidential material and output is usually in analytical form. The main items on the file fall into the following broad categories: Register Book type of data, LR identity number, cargo considerations, technical aspects of hull and machinery, main and auxiliary engines and steam turbines, engine reduction gearing, electrical equipment, generators, main and auxiliary boilers, control equipment.

Manual Files. The combined manual files contain a vast array of shipping information, both contemporary and historic. Some of the principal subjects: shipbuilders, engine and boiler makers, dry and wet docks, shipbreakers, ships laid up, ships delivered, ships' movements, ships casualties, yachts, strikes/labour disputes/port conditions. Services include: the provision of selected extracts from extensive records of casualty information and statistics; monitoring approximately 4,000 shipping movements received daily to provide prompt notification of the whereabouts of specific ships; inquiry on behalf of clients re: loading/discharging of cargo, port conditions, reason for vessel(s) delay; reports of ships bound to specific ports.

Lloyd's/Lloyd's Register Shipping Information Services
4 Lloyd's Avenue
London, EC3N 3ED, England
Telephone: 01-709-9166, Extension 459
Telex: 888379, answer back code: Committee Ldn
Telegraphic address: Committee London EC3

The Montreal office maintains files on the Canadian registered ships classed with Lloyd's; however, they are able to use the worldwide resources of the headquarters files by telex.

PUBLICATIONS

Register Books issued by the Committee of Lloyd's Register of Shipping.

Register of Ships. Published annually in July (in three volumes A-G, H-O and P-Z) the Register contains the names, classes and general information concerning the ships classed by Lloyd's Register of Shipping (including the British Corporation Register); also particulars of all known self-propelled seagoing merchant ships in the world with a gross tonnage of 100 and above.

From the 1984-85 edition, information covering former names of ships, compound names of ships, Lloyd's Register classed ship-borne barges, mooring buoys, miscellaneous pontoons, air-cushion vehicles, docking installations, liquefied gas carriers and refrigerated cargo installations, previously published separately as the Subsidiary Sections, is included in volume 3.

The Register is kept up to date by means of cumulative monthly Supplements containing changes of name, ownership, flag, tonnage, etc., for all ships together with a cumulative list of new ships not recorded in the Register itself. A separate monthly and cumulative *Classification Survey Dates Supplement* containing the latest survey records for all Lloyd's Register classed ships is available if required. Both Supplements will be issued for eleven months July 1984 to May 1985.

LLOYD'S REGISTER OF SHIPPING (LRS)

PUBLICATIONS (cont'd)

A Weekly List of Alterations to the Register of Ships is also published.

List of Shipowners. Published annually in September this volume contains a list of owners and managers of the ships recorded in the Register with their fleets, postal addresses, telephone numbers, telex numbers and cable addresses. Managing agents, not recorded in the Register of Ships, are shown together with ships for which they act and are cross-referred to owners.

Statistical Tables are issued free of charge to subscribers to the Register of Ships. - See entry: B 164.

Register of Offshore Units, Submersibles and Diving Systems. Published annually in October, this register is issued free of charge to subscribers to the Register of Ships. The sections include units in existence and under construction and contain mobile drilling rigs able to operate in at least 50 feet of water, submersibles, diving systems (where classed with or certified by Lloyd's Register) and selected work units (ships, barges and platforms used for offshore construction maintenance, pipelaying, heavy lifting, firefighting and submersible and diving support). Also included is a list of owners' names, addresses, telex and telephone numbers, where known, for owners of equipment in these sections.

Maritime Guide. Replacing the *Appendix* and published annually, the Maritime Guide has been revised and expanded to include sections on call signs (indexed to ship name), ports gazetteer, maps, telex numbers (numerically indexed to company name) and shipbreakers. These are in addition to existing sections on dry and wet docks, telegraphic addresses, marine insurance companies, marine associations, shipbuilders, marine enginebuilders and boilermakers and shipbuilders with names of existing ships built by them.

Rule Books and other publications issued by the Committee of Lloyd's Register of Shipping.

Rules and Regulations for the Classification of Ships:

Part

1 Regulations - Classification and periodical survey.

2 Materials - A publication entitled *Rules for the Manufacture, Testing and Certification of Materials*.

3 Ship Structures. The basic structural philosophy of hull construction, longitudinal strength, aft end structures, superstructures, etc.

4 Ship Structures. Hull construction requirements for specific ship types, e.g. tugs, ferries, bulk carriers, oil tankers and container ships.

5 Main and Auxiliary Machinery. Main and auxiliary machinery including shaft vibration and alignment; piping systems for oil and chemical tankers, and steering gear.

6 Control, Electrical, Refrigeration and Fire Automation and control systems, electrical systems, refrigeration systems and fire prevention systems.

7 Special Types. Highly specialized ships to which the format of the rest of the Rules cannot easily be applied i.e., nuclear ships; ships with installed process plant; firefighting ships; oil recovery ships and dynamic positioning systems installed in ships and mobile offshore units.

Each Part of the above Rules may be obtained separately.

LLOYD'S REGISTER OF SHIPPING (LRS)

PUBLICATIONS (cont'd)

Lists of Approved Manufacturers of Materials, Recognized Proving Establishments and Class 1 Welding Firms.

Rules for Floating Docks

Rules for Inland Waterways Ships

Rules for Mobile Offshore Units

Rules for Refrigerated Stores

Rules for Ships for Liquefied Gases

Rules for Submersibles and Diving Systems

Rules for Yachts and Small Craft

Rules for Yachts of the International Rating Classes

Code for Lifting Appliances in a Marine environment

Freight Container Certification Scheme

Requirements for Freight Container Securing Arrangements

Construction and Equipment Requirements of 1978 Protocol relating to MARPOL 73

Provisional Rules for the Application of Glass Reinforced Plastics to Fishing Craft

Guidance Notes and Requirements for Air Cushion Vehicles

Guidance Notes for the Burning of Coal in Ships Boilers

List of Approved Welding Consumables

Approved Prefabrication Primers and Corrosion Control Coatings

List of Type Approved Control and Electrical Equipment

List of Type Tested Circuit Breakers

List of Approved Fuses

Refrigerating Machinery Certification Scheme

International Register of Electrical Equipment Certified for Use in Flammable Atmospheres

Register of Yachts 1980 (Final edition)

Register of Classed Yachts

Statistical Tables

Merchant Shipbuilding Returns

Casualty Returns

Annual Report

The Magazine of Lloyd's Register of Shipping. Quarterly.

ADDITIONAL INFORMATION

Other Canadian offices:

404 Roy Building
1657 Barrington Street
Halifax, Nova Scotia B3J 2A1
(902) 423-6429

P.O. Box 248
Levis, Quebec G6V 6N8
(418) 637-5763

100 St. Paul Street
St. Catharines, Ontario L2R 3M2
(416) 684-9522

LLOYD'S REGISTER OF SHIPPING (LRS)

ADDITIONAL INFORMATION (cont'd)

P.O. Box 6546
Postal Station "A"
Saint John, New Brunswick E2L 4R9
(506) 652-6180

P.O. Box E5054
St. John's, Newfoundland A1C 5V3
(709) 726-0543

P.O. Box 2690
Postal Station "P"
Thunder Bay, Ontario P7B 5G2
(807) 683-6261

Ste. 402, Chamber of Commerce Building
345 Lakeshore Road E.
Oakville, Ontario L6J 1J5
(416) 844-0131

B.C. Rail Centre, Suite 502,
221 West Esplanade
North Vancouver, B.C. V7M 3J3
(604) 985-0477

P.O. Box 1030
Victoria, B.C. V8W 2S9
(604) 384-4191

Suite 1500,
360 St. Jacques Ouest,
Montreal, Quebec H2Y 1P5
(514) 842-2791

Gagnon, Réjean

LOGISTEC NAVIGATION INC.

OBJECTIVES/FUNCTIONS
Ship owners and operators.

ACTIVITIES
Have participated with the government in research projects on the North Shore hovercraft systems.

INFORMATION SOURCES AND SERVICES
Data files are accessible by appointment.

PUBLICATIONS
Annual Report.

P.O. Box 550,
Sorel, Quebec J3P 5P3
(514) 743-3351 - Telex: 055-61081

Rheault, Dominique

MARINE INDUSTRIES LIMITED
NAVAL DIVISION

OBJECTIVES/FUNCTIONS

Shipbuilding and repair, dry dock and offshore.

Part of a major industrial complex comprising three other divisions: Hydro-Electric, Freight Cars and Industrial.

ACTIVITIES

Construction of two type 1100 icebreakers for the federal Transport Department.

Construction of frigates under the Canadian Patrol Frigate Program (CPFP).

INFORMATION SOURCES AND SERVICES

Development of an integrated tug and barge system patented in Canada and the United States under the name MITB (Marindus Integrated Tug and Barge) - 1980.

Development of the "MARINDUS" freighter and tanker concept.

Building of the Panamax size dry dock for Halifax, 1984, for CCPE annual meeting.

Contacts:
Anton Van Angeren for the library.
Guy Sarrazin for Public relations.

PUBLICATIONS

Articles published in trade magazines such as *Seaway Review, Canadian Shipping*, etc.

4-152-C

5670 Spring Garden Road,
Halifax, Nova Scotia B3J 1H6
(902) 425-5101 Telex: 019-22770

MARTEC LIMITED

Dr. McLean A.Y. - President

OBJECTIVES/FUNCTIONS

To provide professional services in marine science and engineering through a highly qualified staff of engineers, oceanographers, marine biologists and computer scientists. The main thrust of the Company is in research, design and development work related primarily, but not exclusively to the marine environment. Martec offers services in the areas of oil spill technology, specification of offshore design criteria, design of structures for operation in the marine environment, computer assisted stress analyses and the collection and analysis of environmental data for design purposes.

ACTIVITIES

Development of methods of analyzing stresses and vibrations in ship hulls and propellers, including digital computer programs.

Propeller-ice interaction forces and resulting stresses in propellers.

Feasibility study of icebreaking and removal techniques for harbours.

Seakeeping study of research vessel in heavy seas.

Ship-ice interaction forces, including the measurement of induced stresses and the numerical modelling of ship response.

Projects relating to offshore exploration include compilation of oceanographic and meteorological data, current description and prediction relevant to various drilling locations.

INFORMATION SOURCES AND SERVICES

Material is kept in project files unless of general interest.

Use is made of existing statistical sources unless they are insufficient for the needs of a particular client's project, in which case the firm will generate the required statistics. Statistics are not held in a central file.

In-house reference files might be made available upon application.

630 Dorchester Boulevard West,
Montreal, Quebec H3B 4H7
(514) 879-1212 Telex: 05-268637

MCMASTER MEIGHEN

Cleman, Nancy G.

OBJECTIVES/FUNCTIONS

Law firm having extensive admiralty practice involving Canadian and international shipping.

INFORMATION SOURCES AND SERVICES

Files relating to admiralty contract and litigation matters. Information services provided by A.S. Hyndman, Q.C., S.J. Harrington; J.H. Scott; P.J. Bolger; N.J. Spillane; N.G. Cleman.

PUBLICATIONS

Hyndman, A.S. Tug and Tow - *Limitation of Liability under Canadian Law. The Law of Tug and Tow.* Continuing Legal Education Society of British Columbia April 1979. Centre for Continuing Education.

Harrington, S.J. *Legal Problems Arising from Containerization and Intermodal Transport* (1982) 17 *European Transport Law 3.*

Harrington, S.J. *Shipowners' Limitation of Liability and the Canadian Conflict of Laws.* Conference of New Directions in Maritime Law, Faculty of Law, Dalhousie University, Halifax, May 18, 1984.

ADDITIONAL INFORMATION

Regional office:

McMaster and Meighen
P.O. Box 191
52nd Floor
1 First Canadian Place
Toronto, Ontario M5X 1A6
(416) 364-1911

4-154-C

Suite 1007,
350 Sparks Street,
Ottawa, Ontario K1B 7S8
(613) 238-1840

MELVILLE SHIPPING LTD.

Dick, R.A. - Vice President

OBJECTIVES/FUNCTIONS

Melville is a 100% Canadian company, owned by two of Canada's largest shipping companies: Fednav Limited and The CSL Group Inc.

The company was created to represent the interest of its parent companies in the Arctic Pilot Project, specifically in the design and operation of the Class 10 LNG tankers. It has subsequently evolved into a marine consulting company with special emphasis on research work and project development in the Arctic.

A great deal of recent studies have evolved around the M.V. ARCTIC and the current modifications which the ship is undergoing. Melville has participated extensively in the research, design and construction process for this upgrading to an ASPPRA Class 4.

ACTIVITIES

The following represents the company's current capabilities and interests: model and full scale testing; icebreaking ship design including supply boats, icebreaking vessels, tankers, bulk carriers, LNG carriers and barges; transportation feasibility studies; economic evaluations of shipping systems; marine engineering services; naval architecture services; and marine draughting services.

Consulting services have been provided to various federal and provincial government departments as well as numerous private industry clients throughout Canada.

INFORMATION SOURCES/SERVICES

Melville's in-house technical library consists of studies and reports dealing with the marine industry in Canada and throughout the world. Special emphasis has been placed on material relating to ship and barge design, LNG ship design and operation, environmental studies concerning marine environments in Canada, ice data and charts, marine economics, and feasibility studies.

Librarian - Janice Fitzpatrick.

PUBLICATIONS

Most publications regarding government work are available through the specific department for which work was performed.

1725 North Service Road,
Trans-Canada Highway,
Dorval, Quebec H9P 1J1
(514) 683-1490 Telex: 05-823509

Dr. Bachynski, M.P.
Dr. Tam, S.Y.K.

MPB TECHNOLOGIES INC. (MPBT)

OBJECTIVES/FUNCTIONS

MPBT conducts research and development and product development both in-house and external customers. The Company manufactures and offers for sale a range of high technology products.

ACTIVITIES

Development of a high intensity light source for Coast Guard icebreaker applications.

Development of an airborne sea-ice sensor for measurement of sea ice thickness.

INFORMATION SOURCES AND SERVICES

Company maintains files of:

Laboratory and Technical Reports
Design Drawings
Manufacturing Drawings

The technical data deals with contract reports but these are not usually available unless through the contract agency.

Some data available via personal visit.

4-156-C

NEWFOUNDLAND OCEANS RESEARCH AND DEVELOPMENT CORPORATION (NORDCO LIMITED)

P.O. Box 8833,
St. John's, Nfld. A1B 3T2
(709) 364-1200 Telex: 016-4596

Smith, F.D.
President and Chief Executive Officer

OBJECTIVES/FUNCTIONS

To undertake research, development, and application activities in marine transportation, engineering, surveillance and resources with an emphasis on ice or iceberg related problems. To offer an integrated systems approach in a broad range of ocean related areas through a multidisciplinary team of engineers, naval architects, and scientists.

ACTIVITIES

Design, development, and implementation of a digital environmental monitoring system (recently installed on Bow Drill Three semi-submersible).

Local scale and regional scale iceberg management computer sub-systems, including input/output and data management sub-systems and proven iceberg drift prediction models (currently in operation on the Grand Banks).

Design and development of ice hazard detection system consisting of computer- based image analysis system interfaced to marine radars and infrared systems.

Modelling and software development for: ship transiting through ice; structure analysis and finite element modelling; ice and environmental database management; current meter data processing; fishermen's chart production; socio- economic data analysis; iceberg scour data analysis, and - hydrodynamics.

Development, evaluation, and application of remote sensing technology: ice thickness and iceberg draft measurements; oil pollution detection; sea ice mapping and classification; ocean surface parameters (temperature, wind velocity, significant wave height) and, image processing and analysis.

Comparative field evaluation of LORAN-C marine positioning receivers for navigation.

Experimental trials of ship/icebreaker navigation into Lake Melville, Labrador including installation of strain gauges and performance measuring instruments.

Number of field programs for ice and oceanographic measurements.

Provision of iceberg management service (surveillance, detection, tracking, forecasting, and avoidance - e.g., towing, technologies) to offshore exploration rigs.

Provision of environmental (ice and weather) forecasting service to offshore drilling operators.

Number of environmental impact assessment and climatological studies.

Research and development on interactions between ice and vessel/offshore structure, environmental loading, and hydrodynamics, such as, experimental and theoretical investigations of the hydrodynamic interactions of an iceberg with a gravity-based offshore structure; super-structure icing loading (from marine and atmospheric sources) analyses off the East Coast of Canada, and laboratory testing of a safety capsule model for offshore evacuation.

Provisions of support (naval architects, marine technologists, and technical support staff) for the planning and future operation of the Institute of Marine Dynamics belonging to the National Research Council of Canada in St. John's, Newfoundland.

Coastal, port or harbour studies such as investigation of various techniques (e.g. airbubble,

NEWFOUNDLAND OCEANS RESEARCH AND DEVELOPMENT CORPORATION (NORDCO LIMITED)

ACTIVITIES (cont'd)

flow development, icebreaking tugs) for control of ice growth at an arctic terminal or port.

Major geophysical, geotechnical, and hydrographic surveys and many economic or socio-economic analysis studies, such as:

Vessel design, construction, and evaluation, such as, fabrication, testing, and demonstration of new fishing trawl; evaluation of tenders for vessel construction, and supervision of the construction of fishing vessels and acceptance; measurement of the full efficiency of fishing vessels operating under different conditions; design of a sixty foot vessel for the crab fishery; design and construction of sensors and instrumentation to measure the performance of fishing trawls in operation; study of the physical infra-structure and socio-economic factors effecting the further development of an existing part; evaluation of a shipyard's potential to undertake fishing and petroleum industry related construction projects.

INFORMATION SOURCES AND SERVICES

Files are confidential to clients, available to outside researchers on authorization from client.

Conferences/Meetings

Participated in the organization of the **Ninth Canadian Symposium on Remote Sensing** held August 13-17, 1984 at the Memorial University, St. John's, Newfoundland. The symposium is sponsored every eighteen months by the Canadian Remote Sensing Society and is held in different locations. Proceedings are published and are available from the Society's headquarters in Ottawa.

ADDITIONAL INFORMATION

Regional office:

Dr. G.H. Jones
Executive Place, Suite 1902
726 6th Avenue, S.W.
Calgary, Alberta T2P 0V1
(403) 265-1151

Affiliates:

Geonautics Limited
P.O. Box 8143, St. John's, Nfld.
A1B 3M9

Geonautics Limited
P.O. Box 851, Halifax, Nova Scotia
B2Y 3Z5

FENORDCO Limited
192 Joseph Zatzman Drive,
Dartmouth, Nova Scotia
B3B 1N4

CAN-AM Offshore Systems Limited
P.O. Box 13184, St. John's, NFLD
A1B 4A4

1304 Hornby Street,
Vancouver, B.C. V6Z 1W6
(604) 683-4535 Telex: 045-4393

Coulter, D.E.
Vice President, Resource Development

NORTHERN CONSTRUCTION COMPANY LTD.

OBJECTIVES/FUNCTIONS

Northern Construction Company Ltd. is a firm engaged in general construction in all parts of Canada, with particular emphasis on heavy civil, marine and industrial construction.

ACTIVITIES

The firm has long association with both offshore and Arctic construction. One project was the building of offshore islands in the Arctic Ocean for oil and gas exploration. Imperial Oil Limited's Immerk B-48 (Oilkertauyak) was the first man-made island in the Beaufort Sea.

The company has carried out dredging operations and built major marine structures for Fraser River Harbour Commission, Department of Public Works, National Harbours Board, Department of Transport, and Imperial Oil.

The company has constructed large underground and above ground powerhouses; tunnels; concrete, rock and earth filled dams. In addition, NCCo has constructed pulp mills, coal processing plants, concentrators and related industrial plants for B.C. Forest Products, Cominco and Denison Mines.

INFORMATION SOURCES AND SERVICES

Operating files are of a proprietary nature. In general, they pertain to marine construction operations carried out by Northern Construction Company Ltd.

The files are not available to outside researchers.

Northern Construction Company Ltd. has offered training programs for Northern Construction employees as part of our efforts to involve local residents in remote construction projects.

4-158-C

Suite 9945 - 108 Street,
Edmonton, Alberta T5K 2G9
(403) 423-9201 Telex: 037-2480

Williams, Tom
Manager of Marine Engineering

NORTHERN TRANSPORTATION COMPANY LIMITED (NTCL)

OBJECTIVES/FUNCTIONS

The operation of marine transportation equipment, freight terminals, docks and shipyards and other facilities necessary to provide a general freight service on a commercial basis throughout Northern Canada and the Arctic.

ACTIVITIES

Maintenance and repair of vessels and associated port facilities.

INFORMATION SOURCES AND SERVICES

Information files are in four categories:

operating and performance data
meteorological information
water levels, sailing dates, season information
tonnage and traffic information.

Because of the competitive aspects of NTCL's business, all information files are confidential and not for distribution.

4-159-C

Suite 3,
1378 Bedford Highway,
Bedford, Nova Scotia B4A 1E2
(902) 835-1617 Telex: 019-22888

OCEANROUTES CANADA INC.

Macpherson, Hugh A. - President

OBJECTIVES/FUNCTIONS

Enroute forecasting.

Port and route environment studies.

Marine client information terminal services.

Studies of the effects of weather on marine operations and designs.

ACTIVITIES

Development of a Canadian Atlantic Wave Model for vessel design considerations and operational planning.

Development of ice modelling techniques.

Provision of vessel routing services.

Marine disaster analysis with respect to weather conditions impacting on drilling and other marine operations on the East Coast.

INFORMATION SOURCES AND SERVICES

Comprehensive data files on marine weather and shipping. These files date from 1946 to the present. They are available on a fee for service basis.

Two or three seminars given annually.

PUBLICATIONS

Oceanroutes has published a number of books and pamphlets on the subject of marine weather for the mariner. Most of these are available without charge. Please write for further details.

4-160-C

PALLISTER RESOURCE MANAGEMENT LTD. (PRML)

105, 4116 - 64th Ave. S.E.,
Calgary, Alberta T2C 2B3
(403) 236-2345 Telex: 03-821172

Dr. Pallister, A.E.

OBJECTIVES/FUNCTIONS

To provide consulting services concerning oil and gas exploration, development and transportation activities in frontier regions. Provision of research management, editing and publishing and information services.

ACTIVITIES

Consulting services. To advise clients on resource development project planning. PRML specializes in preparing plans designed to optimize client's interests and which conform to government policies and regulatory requirements. Emphasis is placed on safe operations, environmental protection, local benefits and technical and financial feasibility of resource development projects.

Research and communications. PRML assists clients in identifying research requirements, planning future programs, assembling specialists, organizing procedures and integrating study results. The company promotes communications between groups with divergent interests to discover solutions to problems and resolve differences.

Editing and publishing. The company provides technical writing services and performs research. PRML offers production management services for publications.

Information Services. PRML operates an extensive information and data service, distributing publicly-released research reports to interested parties, providing custom searches and acquiring proprietary data as a broker.

Principal consultant to Consolidex: Magnorth-Oakwood joint venture for drilling in Lancaster Sound (1983).

Consultant to Arctic Pilot Project on research requirements and research management (1982).

INFORMATION SOURCES AND SERVICES

PRML has a technical library of approximately 3000 documents. About 30 percent are marine related. Most reports are available for purchase. Access for researchers who establish a need-to-know.

Contact: Peggy Seely: (403) 236-2344.

Significant files:

Arctic Pilot Project. Catalogue available.

Beaufort Sea - Mackenzie Delta EIS. Catalogue available.

Lancaster Sound Study Reports. Catalogue available.

Canadian Offshore Oil Spill Research Association (COOSRA). Catalogue available.

Offshore Safety Task Force Report.

PUBLICATIONS

APOA Review. 1978- , 3 times/year English, one annual Inuktitu issue. Produced under contract for Arctic Petroleum Operators' Association.

Distribution of over 700 titles related to northern petroleum research. Catalogues available on request.

4-161-C

Elm House,
Chemin St. Henri,
Ste. Marthe, Quebec J0P 1W0
(514) 458-5179

Peirce, T.H. - Principal

PEIRCE OPERATIONAL DYNAMICS INC.

OBJECTIVES/FUNCTIONS

To provide consulting services on the techno-economics of marine transportation with particular reference to new ventures and arctic operations.

ACTIVITIES

Projects covering a wide range of marine technological subjects have been undertaken singly or in association with others, including:

Pathfinder studies concerning the use of ships for resource development in the Canadian Arctic, Alaska and Greenland.

Preparation of an arctic business development plan for a Canadian engineering company.

Report on the roles of Government, University and Industry and their related laboratories in the field of ship hydrodynamics, ice dynamics and technological research prior to the creation of the Arctic Vessel and Marine Research Institute of NRC.

Advice on Government support of marine transportation and the development of icebreaking policy and services in Canada.

Evaluation of the requirements and cost-effectiveness of the Government fleets engaged on ocean science and fisheries management.

Review of ocean engineering research and development in the context of the activities and role of the Federal Government.

Development and implementation of a strategy plan for the detailed analysis of the full scale data gathered under the MV Arctic Scientific Program and for the dissimination of the results.

INFORMATION SOURCES AND SERVICES

Small reference library for in-house use. Reports and files relating to projects undertaken for clients are proprietary.

PUBLICATIONS

Arctic Marine Technology - A Review of Ship Resistance in Ice. RINA transactions, vol. 121, 1979.

1230 - 355 Burrard Street,
Vancouver, British Columbia V6C 2G8
(604) 683-4441 Telex: 04-54262

PETER S. HATFIELD LTD.

Hatfield, Peter S.

OBJECTIVES/FUNCTIONS

Peter S. Hatfield Ltd., naval architects and marine consultants, provides services to industry and government engaged in marine transportation, ocean engineering, resource exploration and extraction activities, fishing and fisheries services and projects related to the marine environment.

Company expertise is available for preparation of conceptual, preliminary and contract level new designs or conversions of existing equipment; for investigations, studies and reports concerning structures, propulsion, stability, traffic and cargo flow patterns, construction cost estimates and operational aspects of all types of marine equipment.

ACTIVITIES

Design and construction consultation for tugboats and barges; ice strenghtened and ice breaking tugboats and offshore supply vessels; fishing vessels of all types and services; for commercial and government service.

Naval architectural contribution to design and operation of mobile arctic drilling caissons.

Design and construction consultation for specialized craft such as air cushion vehicles (ACV's); jetfoil (hydrofoil); high speed launches and patrol craft; for commercial and government service.

Consultation services for traffic flow; construction cost estimates; resistance; seakeeping; stability; ice breaking capability; computer studies; finite element analysis.

INFORMATION SOURCES AND SERVICES

Design and consulting project files if not proprietary may be offered as component of project, or as basic information on an agreed fee basis.

Company has a comprehensive library relating to naval architecture, marine design, operations and transportation.

Part-time librarian Ms. Desiree Bradley.

PUBLICATIONS

Tugs and Barges for the Beaufort Sea, by Peter S. Hatfield. Presented at the 7th International Tug Convention, London, England, 1982.

The Pacific Northwest and North: An Emerging Market for Work Boats, by Peter S. Hatfield. Presented at the Work Boat Show, New Orleans.

Review of Marine Equipment and Structures for Support of Drilling Operations, Offshore Beaufort Sea, by Peter S. Hatfield. Presented at the 7th Annual Energy- Sources Technology Conference and Exhibition, New Orleans, Louisiana 1984.

4-163-C

P.O. Box 90,
Commerce Court West,
Toronto, Ontario M5L 1H3
(416) 869-2675 Telex: 06-22871

POLAR GAS PROJECT

Giovannetti, Carolyn - Librarian

OBJECTIVES/FUNCTIONS

The Polar Gas Project was formed in 1972 in order to investigate the feasibility of constructing and operating facilities for the transmission of natural gas from the Beaufort Sea and Arctic Islands areas to markets in Canada and the United States.

ACTIVITIES

A logistics plan has been developed to ensure that all materials, supplies, spare parts, fuel, camps and equipment are delivered to their assigned destination in good condition, on time and within the estimated cost. The logistics plan makes use of existing transportation modes and provides the facilities and back-up which are required to ensure reliability and flexibility of the logistics operation.

On June 29, 1984 Polar Gas filed an application with the National Energy Board for authorization to build a 2415 Km 914 mm. diameter natural gas pipeline from the Mackenzie Delta area to a point near Edson, Alberta.

INFORMATION SOURCES AND SERVICES

The Polar Gas Library collection is available to outside users by appointment only. The Library contains books, journals, hearing transcripts and exhibits and in-house reports in the areas of arctic energy transportation systems, northern development and the northern environment.

There are several reports on marine transportation systems.

The technical reports are intended for internal distribution only and are not available for purchase or through public or academic libraries.

The Polar Gas Application and other documentation, including the technical reports, are available for viewing in the Polar Gas Library.

PUBLICATIONS

Polar Gas Limited. *Application to the National Energy Board for a Certificate of Public Convenience and Necessity Authorizing the Construction of Pipeline Facilities*. 10 vols. June, 1984.

ADDITIONAL INFORMATION

Regional office:

Mr. Mike Robinson,
c/o TransCanada PipeLine Ltd.
Station M, P.O. Box 500.
TCPL Tower
530 Eighth Ave. S.W., 26th Floor,
Calgary, Alberta T2P 3V6
(403) 269-5063

4-164-C

P.O. Box 3011,
St. Catharines, Ontario L2R 7C1
(416) 934-2581 Telex: 061-5136

PORT WELLER DRY DOCKS
A DIVISION OF ULS INTERNATIONAL INC.

Urquhart, A.G.

OBJECTIVES/FUNCTIONS

To manufacture ships of any type up to maximum St. Lawrence Seaway dimensions including ice strengthened cargo vessels.

To modify existing ships by lengthening, re-engining or updating accomodation to owner's and regulating bodies requirements.

To continue to offer prompt and efficient repair services to any vessel requiring these.

ACTIVITIES

The *MV Arctic*, built by P.W.D.D., has been used extensively by the Canadian Department of Transport as a test vehicle in the Arctic. Strain gauges were incorporated in the hull structure to determine standards for hull stiffeners and shell plating for future vessels. We have completed modifications to the bow as a result of these tests and also have worked on a completely new bow which has still to be fitted.

In constructing new vessels particularly for our parent company, ULS International Inc. we have continously used the latest innovations and equipment in effort to conserve energy. The *MV Canadian Enterprise* is a good example of this, where a B&W partial duct stern was incorporated into the vessel, the propulsion power available was reduced by 1/8 and the propeller rpm was reduced to 65. This resulted in this vessel running at the same speed as identically sized sister vessels and it also operates with much less vibration due to the propeller rpm.

INFORMATION SOURCES AND SERVICES

Company maintains files of specifications, drawings and trial results of ships recently built.

Owners of the vessels built by us can receive additional information if and when they require it, usually at cost.

Prospective owners are shown typical examples initially from our records of vessels similar to their own requirements and if an order results, new specification and drawings are then developed to meet their exact needs.

PUBLICATIONS

ULS News. Published bi-monthly by ULS International Inc. for its employees.

1000 Marie Victorin E.
Box 10,
Longueuil, Quebec J4K 4X9
(514) 651-3633 Telex: 052-67509

Sachs, R. - Marketing Manager,
Industrial Marine Division

PRATT AND WHITNEY CANADA INC.

OBJECTIVES/FUNCTIONS

Design and manufacturing of gas turbine engines. Design and supply of gas turbine power systems including propulsion systems.

ACTIVITIES

Design of naval gas turbine propulsion systems e.g. Canadian Forces DDH destroyers.

Design of a study of commercial gas turbine propulsion systems, e.g. for arctic resource carriers.

INFORMATION SOURCES AND SERVICES

Company generated material is not available to outside researchers.

Company maintains a library. (514) 647-7341. Library accessible by appointment only.

4-166-C

Suite 500,
1380 Burrard Street,
Vancouver, B.C. V6Z 2H3
(604) 684-8102 Telex: 04-55435

ROBERT ALLAN LTD.

Allan, R.G.

OBJECTIVES/FUNCTIONS

Robert Allan Ltd. is a firm of naval architects and marine engineers providing services in the areas of ship design, technical assistance to shipyards, marine engineering, construction supervision and provision of economic studies for clients.

ACTIVITIES

Ship Design

Robert Allan Ltd. has an experienced professional staff capable of handling any form of ship design, but the company is best known for tackling the innovative and unusual design problem. Complete and up-to-date computer facilities expedite and improve the accuracy of every stage of design, from preliminary calculation to final drawings.

Examples of such activities are: Tug and Barge Transportation. Major design developments in B.C. and worldwide towing include: self-loading/self-dumping log barges; ocean barge transportation systems; first designs for Kort nozzle propulsion in B.C.; first deep-notch pusher barge for B.C. service.

Ship Docking

Numerous designs completed for highly efficient ship berthing tugs. Studies conducted to determine ship berthing tug requirements for various ports, including Ridley Island, B.C. and Churchill, Manitoba.

Detailed analysis of the requirements for ship berthing tugs in new or existing ports has led to the creation of a unique computer program, "SHIPDOCK". Given any combination of ship characteristics and environmental conditions, "SHIPDOCK" will calculate the required tug assistance in order to execute given manoeuvres.

High Speed Craft

Successful designs have been built for coastal patrol, search and rescue, and leisure use, many operating in Southeast Asian waters. Extensive model testing has also been done to establish a range of high performance, semi-displacement hulls for similar service, designated the "RALLY" series. Designs are available for patrol, search and rescue, pilotage, or any comparable duties.

Shallow Draft Vessels

Robert Allan Ltd. has been involved in the design of many vessels for service in rivers and lakes where extreme shallow draft capability is necessary. Frontier development along the MacKenzie River and in the Beaufort Sea in the early 1970's accelerated demand for vessels of this type. Using the expertise gained in the Canadian North for these unique vessels, Robert Allan Ltd. has successfully applied this technology to new designs for service in Central and South America, and Southeast Asia.

Ice Class Vessels

Robert Allan Ltd. have been actively involved in the designs of tugs, supply vessels, barges, and other craft for support of drilling activities in the Canadian and U.S. Arctic. Major projects include: 4,500 HP Ice Class 1A Super Ocean Tug; 63 Metre, 7,000 HP Arctic Class 2 Supply Vessels; 79 Metre, 15,000 HP Arctic Class 4 Supply Vessels; Arctic Class 2 Navigation Aids Tender for Canadian Coast Guard.

Special Service Vessels

Robert Allan Ltd. has consistently performed design contracts for vessels required to perform unique and specialized functions for both government and corporate clients. Examples of such de-

ROBERT ALLAN LTD.

ACTIVITIES (cont'd)

signs are: Survey vessels and launches; crane equipped workboats; diving tenders; submersible support vessels; fireboats; patrol and search and rescue craft; rescue crash boats; personnel carriers and crew boats; navigation aids vessels, notably the Canadian Coast Guard Type 1050 and Type 800; rail car ferries; barge train steerable thrusters.

Computer-Aided Design

Robert Allan Ltd. has installed major computer facilities for computational, administrative, and drafting functions.

Special Studies

Economic analysis. A major computer program developed to systematically examine alternatives for any set of transportation circumstances. The program covers vessel design and operation, including port and cargo handling costs. The result is a set of optimized design parameters for any given ship or tug/barge system.

Ship anchors. Numerous studies, complemented by model and full scale testing of anchor behaviour have been done on behalf of clients interested in assessing potential risk to submarine cable or pipeline installations.

Transportation systems. Robert Allan Ltd. has conducted analyses of transportation systems on both the Pacific Coast and on the MacKenzie River System. Objectives of such studies have been diverse, from determining impact of proposed developments, to predicting hazard potential due to marine traffic. The techniques employed in these studies can readily be applied to any waterway.

INFORMATION SOURCES AND SERVICES

General files - covering all aspects of ship design, operation and transportation from 1950 to present. Indexed and organized in internal reference library.

Examples of special project files:

- MacKenzie Valley Water Transportation Study
- Pacific Coast transportation - related to anchor investigation
- Lumber transportation by sea.

Access to files available by personal visit or direct specific request. Fees may be charged according to extent of requested data.

PUBLICATIONS

P.G. Allan. *Computer-Aided Design in the Canadian Marine Consulting Field.* Canadian Shipbuilding and Ship Repairing Association Technical Conference, 1984.

Push-Towing Systems in British Columbia. British Columbia Towboat Owners Association Conference, 1984.

4-167-C

P.O. Box 7777,
Saint John, N.B. E2L 4V8
(506) 632-6900 Telex: 014-47490

SAINT JOHN MARINE CONSULTANTS LIMITED

Milne, J. - General Manager

OBJECTIVES/FUNCTIONS

Design and working drawings of ships. Studies on marine transportation modes. Charts include shipyards, other consultants, government agencies. Design of offshore equipment.

ACTIVITIES

Type 1100 design for DOT (icebreaking buoy tender vessel) Pollution abatement on DND vessels.

INFORMATION SOURCES AND SERVICES

Company maintains a technical library, it is not available to outside users.

4-168-C

2045 Mills Road,
Sidney, B.C. V8L 3S1
(604) 656-0881 Telex: 049-7460

SEAKEM OCEANOGRAPHY LTD.

Thomas, David J.

OBJECTIVES/FUNCTIONS

Provide consulting expertise in chemical, physical and biological oceanography. The company also offers analytical services and management of large and small interdisciplinary pure and applied research projects in the physical and biological sciences.

ACTIVITIES

Harbour dredging projects (Tuktoyaktuk Harbour, N.W.T.; McKinley Bay shore base facilities, N.W.T.).

INFORMATION SOURCES AND SERVICES

Files are related to oceanographic studies in harbours (primarily dredging projects) and available through the client.

4-169-C

Suite 306,
3700 Gilmore Way,
Burnaby, B.C. V5G 6M1
(604) 437-4781
Heyman, Jacques - President

SEATRONICS TECHNOLOGIES LTD.
(Formerly Seaspan Development Co. Ltd)

OBJECTIVES/FUNCTIONS

A company dedicated to research, development and consulting services related to marine transportation and ship building.

ACTIVITIES/PROJECTS

Design and marketing of hydralift skegs. Currently undertakes a research project for Transportation Development Centre, Transport Canada entitled *Energy Efficient Conceptual Tug/Barge Systems* a sequel to a study in 1981/82 *Minimum Resistance Barge Forms*.

INFORMATION SOURCES AND SERVICES

Tug and barge design data, hydrodynamic studies. Information on hydralift skeqs is proprietary. Information sources are generally not available to outside researchers.

4-170-C

1378 Bedford Highway,
Bedford, Nova Scotia B4A 1E2
(902) 835-9686 Telex: 019-22888

SEIMAC LIMITED

Seiler, Joseph H.

OBJECTIVES/FUNCTIONS

System engineering, research and development and consulting services in marine microelectronics, data acquisition and instrumentation/ monitoring equipment. Custom design and manufacture.

ACTIVITIES

Engine room instrumentation for small vessel energy consumption.

Integrated data and data bus systems.

Development of buoy technology relating to vessel resistance measurements.

Development of marine electronic training aids.

INFORMATION SOURCES AND SERVICES

The files cover the general areas of marine microelectronics and instrumentation. They are normally available on a fee for service basis in support of a commission from a client.

Contact Mr. Joseph H. Seiler for detail and accession arrangements.

Specialized seminars and courses are given depending on market demand.

PUBLICATIONS

A number of publications on sonar, energy consumption and data bus system have been prepared for Government clients. Copies may be available. Please provide details of request.

ADDITIONAL INFORMATION

Regional office:

27 Springdale Street,
St. John's, Newfoundland A1E 2P9
(709) 726-7203

Suite 305,
407 McGill Street,
Montreal, Quebec H2Y 2G3
(514) 842-9581 Telex: 05-826852

LES SERVICES DELMARE INC.

De Luca, John J.

OBJECTIVES/FUNCTIONS

Les Services Delmare Inc. is an independent company specializing in marine expertise; project development, technical management, hull and machinery surveys, superintendency, damage and casualty investigation, legal and arbitration, studies and technical assessments.

ACTIVITIES/PROJECTS

Sénégal
Consulting and expert services relative to the operation of 3 vessels. Technical and budget assessments and recommendations for proper functioning.

Oil Rigs
Construction supervision of rigs on behalf of owners.

Tankers
Construction supervision on behalf of owners.

Stranding
Representing underwriters in a major shipping mishap, loss of vessel and pollution.

INFORMATION SOURCES AND SERVICES

Files cover shipping casualties occuring during transportation, causes, and technical evaluations. Other files include studies, budget assessments, legal cases, arbitration, investigations and inquiries, etc.

All our files are commercially and strictly confidential and are not available without the consent of the involved parties.

P.O. Box 1300,
Highway 17,
Rockland, Ontario K0A 3A0
(613) 446-6011 Telex: 053-4806
Owston, C.H. - Manager, Marine Systems

SPERRY INC.
AEROSPACE AND MARINE GROUP

OBJECTIVES/FUNCTIONS

The design, manufacture, installation and service of marine navigation systems.

ACTIVITIES

Systems and equipment designed and manufactured include steering gears, radar, anti-collision devices, integrated navigation systems, gyrocompasses, gyropilots, magnetic autopilots and electro-hydraulic devices. This equipment is designed for commercial vessels. ACV/s, etc., in the 25-1100 feet range.

Test facilities are available at each of the eight Canadian field offices.

INFORMATION SOURCES AND SERVICES

The Montreal office, the technical centre for Canada, 491 Viger Street W., Tel: (514) 866-1714, houses files on all Canadian vessels with Sperry equipment, other permanent customers, e.g. deep-sea ships, with Sperry equipment, and a collection of design/engineering reports and manuals.

The New York and Charlottesville offices have large technical libraries to provide support to regional offices if required.

The New York office has machine readable records of all Sperry equipment and where it is located, e.g. all vessels with gyropilots in the world could be identified.

The Rockland office has a small technical working library for in-house use.

None of these collections are generally available to outside researchers. Information/expertise is provided to customers only.

Courses/Programs

Staff and facilities at the Charlottesville, Virginia office provide instruction to customers and field staff. Courses are tailor-made for requirements of customer and are from 5-28 days in duration. Sessions include theory and hands-on experience of navigation equipment.

PUBLICATIONS

Each piece or system designed has a manual prepared by the technical writing group in the U.S. head office, and then customized by the local office as required. These are supplied to customers only.

P.O. Box 5900,
Belleville, Ontario K8N 5C8
(613) 962-3411 Telex: 06-62229

STEPHENS - ADAMSON
(Division of Allis - Chalmers Canada Inc.)

Knight, R.J.
Manager International Marketing

OBJECTIVES/FUNCTIONS
Designer and manufacturer of high capacity self-unloading systems for dry bulk materials and associated port facilities, with continuous discharge rates up to 10,000 tons per hour.

ACTIVITIES
Deals directly with shipyards and owners as necessary on their requirements for self-discharge systems.

Has designed and supplied some 60 self-discharging systems for various shipowners such as Upper Lakes, Algoma Central and CLS. Has also designed and supplied numerous supporting systems for shoreside handling of bulk materials.

INFORMATION SOURCES AND SERVICES
A technical library is maintained for the use of in-house designers.

PUBLICATIONS
The Self-Unloading Ship - company brochure.
Reference list of self-unloading ships.

4-174-C

295 Hymus Blvd,
Pointe Claire, Quebec H9R 4N9
(514) 695-8320 Telex: 05-821577

SULZER CANADA INC.

Godel, J.C. - President

OBJECTIVES/FUNCTIONS

The diesel division of Sulzer Brothers Ltd, is, with its more than 35 licencees worldwide, a leading designer and manufacturer of large marine engines.

ACTIVITIES

Studies with Dome Petroleum related to Arctic tanker propulsion.

Proposal to TDC (Transport Canada) to use Arctic crude oil for propulsion of Arctic vessels.

INFORMATION SOURCES AND SERVICES

For information contact:

Mr. Walter Bernard - Toronto
Mr. Jack R. Metz - Calgary.

PUBLICATIONS

Sulzer Technical Review. Quarterly, free.

Diesel News. Non-regular.

ADDITIONAL/INFORMATION

Regional offices:

60 Bloor Street West, Suite 700,
Toronto, Ontario M4W 3B8
(416) 923-2034 Telex: 06-23382
Telecopier: (416) 928-9601

150, 630 - 4th Avenue S.W.,
Calgary, Alberta T2P 0K2
(403) 261-9016 Telex: 03-825558
Telecopier: (403) 264-7145

1200 West Pender Street, Suite 412,
Vancouver, B.C. V6E 2S9
(604) 689-7381
Telex: 04-55439

4-175-C

SWAN WOOSTER ENGINEERING CO. LTD. (SWANCO)

1190 Hornby Street,
Vancouver, B.C. V6Z 2H6
(604) 684-9311 Telex: 04-51275

Duncan, A. - President

OBJECTIVES/FUNCTIONS

Consulting services in engineering transportation and economics.

ACTIVITIES

Planning and design of ports and marine terminals.

Transportation systems analysis involving road, rail and ocean transport.

Evaluation of policy and regulatory criteria in the transport sectors.

INFORMATION SOURCES AND SERVICES

Files contain information from outside sources (government reports, technical journals, industry reports), plus project reports completed for clients. These files are not accessible to outside researchers.

PUBLICATIONS

Swan Wooster Newsletter. Quarterly. Free to out mailing list.

Company personnel have presented papers at conferences and published papers in journals.

ADDITIONAL INFORMATION

Regional offices:

Swan Wooster and Cie. Ltée.
C.P. 1025, Complexe Desjardins
Montreal, Quebec H5B 1C2
(514) 284-9661

Swan Wooster Engineering Co. Ltd.
26 Hiscott Street
P.O. Box 218
St. Catharines, Ontario L2R 6S4
(416) 685-8441

Swan Wooster Consultants Ltd.
202 - 1167 Bowness Rd., N.W.
Calgary, Alberta T2N 3J6
(403) 283-3601

Swan Wooster Engineering Service
Company Limited
Box 263, 1820 Hollis Street
Halifax, Nova Scotia B3J 2N7

4-176-C

TALBOT, JACKSON AND ASSOCIATES LTD.

1039 West 7th Avenue,
Vancouver, B.C. V6H 1B2
(604) 738-1522 Telex: 04-51358
Talbot, Gerald

OBJECTIVES/FUNCTIONS

To provide consulting services in marine design, engineering and surveying.

ACTIVITIES

Design of tug and barge, self loading, self dumping for log transportation.

Design of self propelled, self loading, self dumping ships for log transportation.

Vessel conversion for Arctic service.

Vessel design, design checks, economic studies, feasibility studies, crane barge stability and load capability and diverse activities in the marine field.

In house computer programs for hydrostatics, cross curves, wind levers, tank capacities, conditions, still water bending moments, barge mounted crane load radius tables, ballast/ deballast of submersible barges.

INFORMATION SOURCES AND SERVICES

Files include material on marine coastal and ocean transportation, design and technical information including economics. Not available to outside researchers.

PUBLICATIONS

Design and Service Experience with Log Ships on the Canadian West Coast. W.E. Gerald Talbot and P. Brown. Presented to the Canadian Institute of Marine Engineers "Maritech 83" in May 1983.

Self-dumping, Self-loading Log Transport Ships: Design and Experience in Service. W.E. Gerald Talbot. Presented at the 5th International Forest Products Transportation Symposium, Hamburg, Germany, Oct. 1983.

These papers available for the cost of xeroxing.

4-177-C

1995 West 1st Street,
North Vancouver, B.C. V7P 1A8
(604) 985-3177 Telex: 04-352568

Wood, H.R. - President

VANCOUVER WHARVES LTD. (VWL)

OBJECTIVES/FUNCTIONS

VWL provides bulk material shippers with deep-sea terminal facilities and services for export or import requirements.

ACTIVITIES

VWL maintains and operates deep-sea terminals and markets their facilities.

INFORMATION SOURCES AND SERVICES

VWL holds historical data on bulk loading in Vancouver Harbour since 1960. This material is not open to researchers but viewing may be arranged in individual cases.

4-178-C

5000 Notre-Dame Street East,
Montreal, Quebec H1V 2B4
(514) 254-9495

VERSATILE VICKERS SYSTEMS INC.

Patterson, A.F. - General Manager

OBJECTIVES/FUNCTIONS

Versatile Vickers Systems Inc. is the marine design consulting subsidiary of Versatile Corporation, and is a member of the latter's Marine and Industrial Operations Group. The company was formed in 1979 to create within Canada a unique integration of design, engineering, maintenance and management resources.

ACTIVITIES

Ship design from the conceptual design of warships and merchant craft to the detail design and engineering support of such diverse vessels as trawlers, tugs, oceanographic research vessels and patrol boats. The entire spectrum of marine design activity, from concept to construction and operational support, can be handled by members of the Engineering Division's staff.

Feasibility studies in any discipline related to ship design, operation and maintenance.

The Logistics Division offers maintenance management services as well as complementary spares and inventory control systems as its principal products.

INFORMATION SOURCES AND SERVICES

Internal library collection, not available to outside researchers.

ADDITIONAL INFORMATION

Regional offices:

1000-200 Elgin St., Ottawa, Ontario K2P 1L5
(613) 236-6200

300 - 5121 Sackville St., Halifax, N.S. B3J 1K1
(902) 422-1785

VIATEC RESOURCE SYSTEMS INC.
(Marine Systems Group)

114, 6815 - 8th Street N.E.,
Calgary, Alberta T2E 7H7
(403) 275-6702 Telex: 038-25753

Harvey, Michael J.

OBJECTIVES/FUNCTIONS

The objective of the Marine Systems Group is to provide turn-key engineering, systems development and consulting services to the marine transportation sector and offshore energy sector.

ACTIVITIES

Contract Research: This includes iceberg detection system development, radar signal processing and radar data collection and analysis.

Turn-key Engineering: This involves activities in all aspects of the specification, design, development, installation, commissioning and service of offshore communications systems and fire as gas control systems.

INFORMATION SOURCES AND SERVICES

Files are available to, and in most cases owned, by clients. Therefore, a description is not possible, other than that they contain both analog and digital recordings of icebergs in Arctic and East Coast geographical areas. These files were collected from 1980 onwards. Analog recordings are stored on video casettes. Digital recordings are stored on magnetic tape and disks.

All publicly owned files concerned with iceberg data are available through the Transportation Development Center (TDC) on the Environmental Studies Revolving Fund (ESRF). Viewing on these files is possible by personal visit.

PUBLICATIONS

A Preliminary Specification for the Ice Hazard Detection/Collision Avoidance System. $20.00, unrestricted availability. Also available through TDC (TP 4216E).

Specification Investigation and Data Assessment of an Ice Hazard Detection/Collision Avoidance System. $30.00, unrestricted availability. Also available through TDC (TP 4896).

ADDITIONAL INFORMATION

Regional offices:

Suite 425, 20 Richmond Street East,
Toronto, Ontario M5C 2R9
(416) 366-4814

P.O. Box 5414,
St. John's, Newfoundland, A1C 5W2
(709) 726-5086

201-1684 W. 8th Avenue,
Vancouver, B.C. V6J 1V4
(604) 736-8711 Telex: 04-508849

WARTSILA ARCTIC INC.

Makinen, Eero

OBJECTIVES/FUNCTIONS

Services to the industry and government in the field of arctic marine technology: Ship design, testing, studies, project management, supervision, etc.

ACTIVITIES

Wartsila Arctic Inc., a consulting company in the field of arctic marine technology with the business territory that covers Canada and the United States, was established in Vancouver in 1983. Wartsila has a unique combination of experience in designing and building icebreakers and vessels for offshore activities. The reference list includes more than 70 icebreakers and icebreaking merchant vessels and a variety of vessels for offshore operation such as crane vessels, dredgers, supply vessels, diving support vessels, salvage vessels, crew vessels, and air cushion vehicles. Arctic offshore development offers Wartsila great opportunities.

Results have been achieved in the sales and licensing of icebreaking technology and know-how. Several projects in this field have been concluded for private and public clients among them the Canadian and United States Coast Guards as well as several oil companies and shipowners.

INFORMATION SOURCES AND SERVICES

Files contain miscellaneous material on arctic environment, arctic technology and arctic operation. There are generally not available to outside researchers.

Organizational Sources

International Organizations

IOWA INSTITUTE OF HYDRAULIC RESEARCH (IIHR)
UNIVERSITY OF IOWA

Iowa City, IA 52242
(319) 353-4692
Kennedy, John F. - Professor

ACTIVITIES
The institute maintains research/engineering capabilities in the following areas: hydraulic engineering; fluid mechanics; marine engineering; arctic engineering; physical and numerical modelling; water resources engineering; development of instrumentation for fluids research. The institute has been designated by the US Office of Naval research as one of its special focus centres for research and ship hydrodynamics.

PUBLICATIONS
Annual report, technical reports, summary of activities.

5-182-I

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
DEPARTMENT OF OCEAN ENGINEERING

Cambridge, MA 02139
(617) 253-4330
Ogilvie, T. Francis

ACTIVITIES
Research in hydrodynamics, materials, offshore structures, ship structures, marine pollution.

Suite 1369,
One World Trade Center,
New York, N.Y., 10048, USA
(212) 432-0310

Mende, Robert G.
Secretary and Executive Director

THE SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS. (SNAME)

OBJECTIVES/FUNCTIONS

The objectives, adopted with the Society's Founding in 1893, are to..."advance the State-of-the-Art, to afford facilities for the exchange of information and ideas; to disseminate the results of research, experience and information among the members; to encourage and sponsor such research; to cooperate with educational institutions and to promote the professional integrity of its members." The active Society member is provided the opportunity to learn and grow throughout his career by keeping abreast of technical developments in the profession.

ACTIVITIES (Canadian)

Occasional symposia on icebreaking technology "ICE TECH" latest in Calgary, 1984.

Meetings of Canadian Sections.

INFORMATION SOURCES AND SERVICES

Mrs. Virginia Nagle.

Accessible to members only.

PUBLICATIONS

Marine Technology. See entry: B 058.

Journal of Ship Research. See entry: B 052.

SNAME. *Transactions*. Annual.

STAR. Symposium. Proceedings. See entry: B 104.

SNAME also publishes reference books, codes, technical bulletins, research reports, index to its publications. For complete information a publication catalogue is available free.

5-184-I

Suite 1250,
1110 Vermont Avenue N.W.,
Washington, D.C. 20005
(202) 775-9060

Rice, M. Lee - President

SHIPBUILDERS COUNCIL OF AMERICA

OBJECTIVES/FUNCTIONS

The Shipbuilders Council of America is an association of companies engaged in construction and repair of vessels and other marine craft, manufactures of propulsion machinery, marine equipment and supplies. It promotes the industry, compiles statistical data relating to shipbuilding and repair.

5-185-I

711 Hudson Street,
Hoboken, NJ 07030
(201) 420-5300

Dr. Savitsky, Daniel - Acting director
Brown, P. Ward - Marine dynamics
Kahn, Irwin - Transport research

STEVENS INSTITUTE OF TECHNOLOGY
DAVIDSON LABORATORY

ACTIVITIES

Research is undertaken in :

Hydrodynamics.

Stability and control.

Propulsion.

Oceanography.

Naval architecture.

Internal combustion engines.

Motor vehicle dynamics.

Highway safety.

Building technology.

Water conservation.

Plumbing technology.

5-186-I

U.S. DEPT OF THE ARMY
COLD REGIONS RESEARCH AND ENGINEERING LABORATORY

72 Lyme Road,
P.O. Box 232,
Hanover, NH 03755
(603) 643-3200

Pietkiewicz, Wesley

OBJECTIVES/FUNCTIONS

The laboratory's mission is to understand the characteristics of the cold regions of the world and to apply this knowledge to make it easier for people to live and work there. Research covers a variety of subjects. Both freshwater and seawater ice are extensively studied. Past efforts have included crystalline structure, chemical analysis, ice buildup on structures, snowpack pressure, mountain glaciers and snowmelt models. Frozen ground, such as permafrost, is also researched to understand frost heaving and mechanical properties. Cold region construction, land transportation, environmental protection, and ice engineering also are studied.

Facilities: The main laboratory building contains 24 coldroom laboratories capable of achieving temperatures of 30C or below. Along with the cold laboratories are chemistry, physics, soils and electronics labs with highly specialized equipment for research at below-freezing temperatures. An **Ice Engineering Facility** is devoted to the study of problems caused by ice waterways. This lab permits research that will lessen the effects of winter on the nation's waterways. In the facility is a refrigerated modeling area in which scaled-down rivers, harbors and lakes can be studied, a tilting refrigerated flume for river ice research, and a large test basin in which ice force problems can be studied at nearly full-scale dimensions. A **Frost Effects Research Facility** is devoted to the study of frost action in soils. This laboratory contains refrigerated research areas for below-freezing testing of pavements, foundations and underground utilites, and permits the study of destructive freeze-thaw cycles in a controlled setting. In Fox, Alaska, a research tunnel in permafrost is maintained.

INFORMATION SOURCES AND SERVICES

Cold Regions Science and Technology Information Analysis Center.

The center provides information on snow, ice, and frozen ground; materials, facilities, systems, and operations in cold environments; methods and techniques of using various energy forms and systems to obtain information about surface and subsurface features in all environments for engineering, military, and related scientific purposes; ecology; pollution control in arctic environments. Librarian: Nancy Liston (603) 646-4221.

PUBLICATIONS

Bibliography on Cold Regions Science and Technology. See entry: B016.

CRREL Technical Publications. (a publication list of technical reports).

Source: NTIS. *Directory of Federal Technical Resources 1984.* Report No. PB84 100015.

5-187-I

U.S. DEPT. OF COMMERCE
NATIONAL OCEANOGRAPHIC AND ATMOSPHERIC ADMINISTRATION NATIONAL SEA GRANT COLLEGE PROGRAM, OFFICE OF OCEANIC AND ATMOSPHERIC RESEARCH

6010 Executive Blvd.,
Rockville, MD. 20852
(301) 443-8925
Wildman, Robert

INFORMATION SOURCES AND SERVICES

Access is provided to the project summary information of all the projects and publications funded by the National Sea Grant College Program, a partnership of government. universities, and industry working for sound economic de elopment and appropriate use of the U.S.'s marine and coastal resources, including those of the Great Lakes. These projects include results of basic biological research, oceanographic studies, fishery engineering, and marine industry technology improvements.

Source: NTIS. Directory of Federal Technical Resources, 1984.

5-188-I

U.S. DEPT. OF THE NAVY
DAVID TAYLOR NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER

Code 012.2,
Bethesda, MD. 20084
(202) 227-1037
Nakonechny, Basil V.

ACTIVITIES

Of primary concern are new vehicle concepts, ship and aircraft compatibility, ship trials and the development of vehicle technology. Areas addressed include hullform, structures, propulsion, silencing, maneuvering and control auxiliary machinery, environmental effects, pollution abatement, logistics research, computer techniques and software for analysis and design. Research is conducted on advanced concepts for aircraft and ships where areodynamic phenomena play a significant role; hull forms and propulsors, providing the basis for new ship designs; structural methods for evaluating and designing high strength hulls of steel and other materials, providing stronger, lighter-weight ships; underwater acoustics and ship vibrations; computer software for use in a variety of Navy applications, including theory of structures, numerical hydrodynamics, signal processing, computer-aided ship design and construction, logistics, naval warfare analysis and the design of information systems; a wide variety of naval machinery, addressing such areas as power systems, ships automation and control, machinery dynamics, mechanical systems and components, electrical systems integration, and shipboard energy conservation; metals and alloys, corrosion, welding and fabrication, fuels and lubricants, paints, elastomers and coatings, encapsulants, shipboard fire engineering, shipboard pollution abatement and advanced composites.

Source: NTIS. Directory of Federal Technical Resources 1984.

U.S. DEPT OF TRANSPORTATION
COAST GUARD RESEARCH AND DEVELOPMENT CENTER

Avery Point,
Groton, CT. 06340
(203) 445-8501
D'Angelo, M.J.

ACTIVITIES

The laboratory conducts research aroud six core technologies, namely: Ice technology; Marine navigation technology; Marine fire and safety technology; Marine pollution technology; Search and rescue technology; and Naval engineering and marine systems technology. The ice technology core area is interdisciplinary, encompassing ice physics, glaciology, oceanography, meteorology, statistics, and naval engineering. The major projects contained in marine navigation technology involve buoy design, buoy positioning and auditing (monitoring) techniques, buoy monitoring designs, light signal hardware and power sources, extended applications of radio aids to navigation, and information useful for the establishment of aids to navigation standards. The mission of marine fire and safety research is to understand the causes of fires and accidents on ships and boats and to conduct investigations into ways and means of preventing of mitigating these circumstances. Research is also conducted in marine pollution. It involves studies in pollutant detection, identification, quantification, movement prediction, monitoring and containment, as well as the testing of anti-pollution devices. Search and rescue efforts involve operations research, computer technology, oceanography, mathematics, and engineering. The naval architecture/marine engineering area is supported by a substantial inventory of electronic sensors and data collection/analysis instrumentation allowing for the collection, documentation and analysis of hardware and system parameters which are critical to ship and marine vehicle performance. Capabilities exist to carry out a wide variety of shipboard tests such as seakeeping, speed/power, machinery and hull vibration.

Facility: A unique fire and safety test facility located at Mobile, Alabama allows conducting of full-scale shipboard fire tests.

Source: NTIS. Directory of Federal Technical Resources 1984.

5-190-I

U.S. DEPT OF TRANSPORTATION
COAST GUARD HEADQUARTERS
ICE OPERATIONS DIVISION

2100 Second Street S.W.,
Washington, D.C. 20593
(202) 426-1881
Chief, Ice Operations Division

OBJECTIVES/FUNCTIONS

The Ice Operations Division is charged with the responsibility for facilities and program management of three distinct functions: all U.S. polar ice operations, domestic ice operations on the Great Lakes and coastal regions; and, marine science support activities (including the International Ice Patrol). The Division also coordinates technical exchanges with Canada and Finland and is the primary contact for matters of mutual interest with Canadian Coast Guard Northern.

ACTIVITIES

Western Arctic Trafficability Studies aboard the U.S. Coast Guard POLAR Class icebreakers. Coordinated by the U.S. Maritime Administration.

International Ice Patrol research and operations in the North Atlantic.

INFORMATION SOURCES AND SERVICES

Reports of the International Ice Patrol.

Cruise reports for U.S. polar icebreakers in both the Arctic and Antarctic. Files include only individual reports and no index presently exists.

These reports are available only by a personal visit to the Ice Operations Division in Washington, D.C.

PUBLICATIONS

International Ice Patrol Reports (CG-188 Series).

U.S. Coast Guard Oceanographic Unit Technical Reports (YR-Series).

U.S. Coast Guard Oceanographic Reports (CG-373 Series).

Available: National Technical Information Services (NTIS).

U.S. Department of Commerce
Springfield, Virginia 22151 U.S.A.
(703) 487-4650

U.S. MARITIME ADMINISTRATION (MARAD)

NATIONAL MARITIME RESEARCH CENTER

Kings Point, N.Y. 11024
MacLean, W. Dr.
(516) 482-8200 ext. 377

ACTIVITIES

Work addresses improvement of under way ship operations through use of simulation and instrumentation to better define the requirements and criteria for design and operation of ships, waterways, related facilities and support activities; areas of interest include ship operation in defined environments, use of instrumentation for vessel performance monitoring, heavy weather operational guidance, optimal ship routing, maneuverability and control analysis, and operational decision making leading to requirements and criteria for training and certification of the ship's officer. Related work allows a better understanding of the ocean wave environment and its prediction. The center offers government and industry and opportunity to carry out special investigations using both the center's and the Academy's resources as well.

INFORMATIONS SOURCES AND SERVICES

A special Study Center is maintained housing on research topics of importance to the Center's activities and the industry.

Documentation on the first nuclear merchant vessel "NS Savannah".

Marine safety data.

Maritime Administration technical reports.

The Center is also the custodian of the data gathered during the historic voyages of the SS MANHATTAN into and through the Northwest Passage. Available under license to United States corporations, the data are of great value to designers of arctic marine systems.

Rayma Feldman, Librarian. (516) 482-8200 ext. 577.

PUBLICATIONS

NMRC Report Series.

Acquisition list.

Source: NTIS. Directory of Federal Technical Resources 1984.

5-192-I

U.S. DEPARTMENT OF TRANSPORTATION
LIBRARY SERVICES DIVISION

400 Seventh Street, S.W.,
Washington, D.C. 20590
(202) 426-2565

INFORMATION SOURCES AND SERVICES

The DOT library was established with the merger of the Bureau of Public Road Library, the Federal Aviation Administration Library, and the U.S. Coast Guard Library. In October, 1981, the Maritime Administration Library collection was transferred from the Department of Commerce Library to DOT for incorporation into the general collection.

ADDITIONAL INFORMATION

Contact: Maritime Administration
Office of Public Affairs
Walter Oates rm 7219

(202) 426-5807

5-193-I

UNIVERSITY OF MICHIGAN
TRANSPORTATION RESEARCH INSTITUTE (UMTRI)

Ann Arbor, MI. 48109
(313) 764-2171

Hess, Robert L., Dr. Director
Bunch, Howard, Marine Systems
Grimm, Ann,
Research Information and Publications

ACTIVITIES

Multidisciplinary approach in transportation research.

PUBLICATIONS

UMTRI Research Review, bi-monthly.

Work in Progress, annual.

UMTRI Bibliography, irregular.

5-194-I

Ann Arbor, MI. 48109
(313) 764-9432
Telex: 810 223 6056 U of MAA

Troesch, Arman Dr.

UNIVERSITY OF MICHIGAN
SHIP HYDRODYNAMICS LABORATORY

ACTIVITIES
Testing of all forms of marine vehicles and offshore structures.

5-195-I

WEBB INSTITUTE OF NAVAL ARCHITECTURE
LIVINGSTON LIBRARY

Crescent Beach Road,
Glen Cove,
New York 11542
(516) 671-0439

INFORMATION SOURCES AND SERVICES
Subject emphasis: Naval architecture and marine engineering; marine history. General collection to support four year college program.

5-196-I

ADMIRALTY RESEARCH ESTABLISHMENT

Queen's Road,
Teddington, Middlesex
TW11 OLN. England
(01) 977-3231 Telex: 888248

Mitchell, A.B.

ACTIVITIES

Research conducted in hydrodynamics affecting the design of ships, submarines, weapons and propulsors; ship control and behaviour in rough weather; hydro-acoustics; noise reduction; noise ranging; computer applications including computer-aided ship design; strength of materials, structural strength of ships, submarines and marine structures; development and testing of auxiliary marine equipment; the marine application of materials of particular importance to the Royal Navy; anti- corrosion techniques; non-destructive testing; shock phenomena; tribology; paint, rubber and plastics technology; physiological problems of man in the marine environment; diving; an applied psychology unit studies man/machine interfaces and training techniques.

Departments: Noise reduction, D.L. Ryall; Engineering and Human Factors, E.C. Tupper; Hydrodynamics, Dr. R.K. Burcher; Materials, Dr. J.N. Wadsworth; Structures, J.E. Connolly.

5-197-I

BRITISH HOVERCRAFT CORPORATION LIMITED
EXPERIMENTAL AND ELECTRONICS LABORATORIES

East Cowes,
Isle of Wight PO32 6RH
(0983) 294161 Telex 86131EEL G

Crago, W.A.,
Special Director and General Manager
Andrews, A.W., Engineering Coordinator
Clarke, B.G., Hovercraft

ACTIVITIES

Electronic engineering: design and manufacturing of instrumentation and control systems.

Research investigations of complete full scale vehicles or components.

Research using scale model techniques, hydrodynamic investigations for ships, hovercraft, drilling vessels, highspeed craft, propulsion systems, ice- breaking vessels.

5-198-I

Wallsend Research Station,
Wallsend, Tyne and Wear
NE28 6UY England
(0632) 625242 Telex: 53476 BSRA

BRITISH SHIP RESEARCH ASSOCIATION (BSRA)

Goodrich, D.,
Director and general manager

ACTIVITIES

Basic research in ship design, construction, and operation with aim of developing practical packages for direct application in shipyards and on ships. BSRA technical expertise, available worldwide through BSRA Technical Services, especially in the areas of design support; construction; measurement; computer-aided design and manufacture; safety and environment; specialist services.

PUBLICATIONS

BSRA News (three times a year).

Journal of Abstracts (monthly). See entry: B 04.

5-199-I

164 Bramfelder Strasse,
D-2000 Hamburg 60
(040) 69 20 30 Telex: 2174236

HAMBURG SHIPBUILDING RESEARCH INSTITUTE (HSVA)

Krappinger, O., Dr., Professor, Director

ACTIVITIES

Model tests and full-scale trials for ships and offshore structures in open and ice-covered water in order to predict and evaluate: resistance to motion and propulsive power; manoeuvring characteristics; sea-going behaviour of ships; wave and ice loads and behaviour of offshore structures; propeller cavitation; hydroacoustic aspects.

5-200-I

2 Haagsteeg,
P.O. Box 28,
6700 AA Wageningen, The Netherlands
31 8730 19140 Telex: 45148

MARITIME RESEARCH INSTITUTE NETHERLAND (MARIN)

Bakker, G.A. - Director

ACTIVITIES

Hydrodynamics, economics, navigation and ship handling, management and organizational development, an integral approach in solving present-day maritime problems. MARIN has been formed from a merger of the Netherlands Ship Model Basin (NSMB) and the Netherlands Maritime Institute.

PUBLICATIONS

MARIN-Report (quarterly.)

5-201-I

Faggs Road,
4 Feltham,
Middlesex TW14 OLQ
(01) 890 8989 Telex: 263118

NMI LIMITED

Cammell, J.E., managing director

OBJECTIVES/FUNCTIONS

NMI was organized in 1982 as the successor of the National Maritime Institute.

ACTIVITIES

Measurement and interpretation of ocean wind and wave data. Model testing, and full scale testing/trials of vessels and structures.

PUBLICATIONS

NMI news (quarterly).

NORWEGIAN MARINE TECHNOLOGY RESEARCH INSTITUTE A/S (MARINTEK)

Haakon Haakonsongst 34,
P.O. Box 4125,
Valentinlyst N-7001,
Trondheim, Norway
(07) 59 55 00 Telex: 55146 nsfit

ACTIVITIES

Research and development projects, testing and consultative assistance related to the building and operation of ships and offshore constructions.

Information service towards industry. Interests include hydrodynamics and hydrostatics.

Ship design and arrangement.

Shipyard resource planning and production methods.

Transportation.

Shipping economics and administration.

Marine engineering, control, and instrumentation.

Maritime and technical operations.

Material protection.

ADDITIONAL INFORMATION

As of January 1st, 1985, the Ship Research Institute of Norway (NSFI) and the Ship and Ocean Laboratory (SHL), division of the Norwegian Hydrodynamic Laboratories are organized as a limited company - MARINTEK.

Branch office:

Corrosion Laboratory
P.O. Box 147 Asnes
N-3201 Sandefjord, Norway
(034) 61950.

THE ROYAL INSTITUTION OF NAVAL ARCHITECTS

10 Upper Belgrave Street,
London, SWIX 8BQ England
(01)-235-4622

OBJECTIVES/FUNCTIONS

"The Objects of the Royal Institution of Naval Architects are as set out in the Charter of Incorporation 1910 - the improvement of ships and all that specially appertains to them, and the arrangement of periodical meetings for the purpose of discussing practical and scientific subjects bearing upon the design and construction of ships and their means of propulsion, and all that relates thereto".

In order to achieve these objects the Institution, among other activities:

- promotes the bringing together of the results of the practical and scientific experience of all those concerned with the design, construction and operation of ships and other marine craft; the value of these results being enhanced by their publication, examination and discussion by the institution,
- encourages and promotes the carrying out of experiments and other enquiries intended to assist the advancement of knowledge in the science, technology, and management of shipbuilding, marine engineering, and shipping,
- arranges for the discussion of scientific advances, new inventions and materials having an application to marine technology, and
- investigates and gives guidance on those matters of professional importance relating to Naval Architects, their education and training which are properly the concern of a professional institution."

38-1, 6-chome, Shinkawa,
Mitaka Tokyo, Japan

Nagasawa, Hitoshi, Dr. - Director
Sasaki, Hiromichi - Research coordinator

SHIP RESEARCH INSTITUTE

ACTIVITIES

Development of shipbuilding technology, including ocean engineering and marine environmental preservation.

Major current projects: development of tankers and LNG carriers navigable in icy waters; development of large-scale offshore floating stations; studies on fuel savings in ships; development of nuclear merchant vessels; studies concerning MARPOL conventions and SOLAS conventions.

PUBLICATIONS

Report of Ship Research Institute (in Japanese with English abstracts), bimonthly.

Papers of Ship Research Institute (in English), irregular.

Annual Report of Ship Research Institute (in Japanese).

Report of Research Results (in Japanese), annual.

5-205a-I

James Watt Building,
University Avenue,
Glasgow G12 8QQ
United Kingdom
(041) 339 8855 Telex: 778421

UNIVERSITY OF GLASGOW
MARINE TECHNOLOGY PROGRAMME

Miller, Neil S. - Coordinator

ACTIVITIES

The offshore engineering studies include anchor behaviour, corrosion and fracture of reinforced concrete and of welded joints, and design theory of welded steel shells. Design projects of the hydrodynamic behaviour of semi-submersible and tethered-buoyant platforms, sub-sea habitats, deep-ocean mineral exploitation, and a small semi-submersible research vessel.

PUBLICATIONS

Annual report.

Technical reports.

5-205b-I

Acre Road,
Glasgow G20 8TL
United Kingdom
(041) 339 8855 Telex: 778421

UNIVERSITY OF GLASGOW
NAVAL ARCHITECTURE AND OCEAN ENGINEERING DEPARTMENT
(Hydrodynamics Laboratory)

Faulkner, D. - Professor, Head

ACTIVITIES

Research in resistance and propulsion of ships and other marine vehicles; oceanography; wave and wind loading on marine structures; design of floating breakwaters; structural safety and risk analysis; buckling problems in grillages and shell structures; design to resist collisions and slamming behaviour of bodies manoeuvring in shallow waters; overall systems design, structural design, constructional cost, design of SWATH vessels, wind propelled vehicles, hydrofoil craft; use of mini- and micro- computers in design; techno-economic decision-making concerning transportation by air, sea or pipeline.

PUBLICATIONS

Annual report.

Technical reports.

5-206-I

UNIVERSITY OF NEWCASTLE UPON TYNE
SCHOOL OF MARINE TECHNOLOGY

6 Kensington Terrace,
Newcastle Upon Tyne NE1 7RU
England
(0632) 328511 Telex: 53654

DEPARTMENT OF MARINE ENGINEERING

Thompson, R.V., Professor, Head.

DEPARTMENT OF NAVAL ARCHITECTURE AND SHIPBUILDING

Townsin, Dr. R.L., Head.

5-207-I

UNIVERSITY OF SOUTHAMPTON
DEPARTMENT OF SHIP SCIENCE

Highfield,
Southampton S09 5NH,
England
(0703) 559122 Telex: 47661 Sotunu G

Goodrich, G.L. Professor

ACTIVITIES

Study of the capsizing of ships; prediction of manoeuvring characteristics of ships; capsizing of yachts in extreme seas. Links with industry are maintained through the department's industrial unit. The Institute performs contract research, development, and investigation in the marine and industrial aerodynamic fields. Test facilities include model testing tanks with wavemaking and wind apparatus, wind tunnels, and a wide range of equipment for the evaluation of mechanical and other properties. Specialities of the Unit and associated departments include noise and vibration, microelectronics, engine design, electrostatic hazard, explosion, electrochemistry and corrosion, marine technology and industrial aerodynamics besides others such as polymer and analytical chemistry. Design of glass and other reinforced plastic structures is also undertaken.

Wolfson Unit for Marine Technology and Industrial Aerodynamics.

Flewitt, J.R., Director.

5-208-I

TECHNICAL RESEARCH CENTRE OF FINLAND
VALTION TEKNILLINEN TUTKIMUSKESKUS (VTT)

Vuorimiehentie 5,
SF-02150 Espoo 15,
Finland
90-4561 Telex: 12 2972 vttin sf
Sukselainen, Juhani, Dr., Director

ACTIVITIES

Hydro-and aerodynamics.
Naval architecture.
Marine technology.

5-209-I

ARCTIC AND ANTARCTIC SCIENTIFIC RESEARCH INSTITUTE

D 104 Fontantka 34,
192104 Leningrad,
USSR

5-210-I

CENTRAL RESEARCH INSTITUTE OF THE MERCHANT MARINE

Krasnoy Konnitsy Ulitsa 4,
Leningrad, USSR

5-211-I

LENINGRAD SHIPBUILDING INSTITUTE

Lotsmanskaya 3,
190008 Leningrad, USSR

5-212-I

U.S.S.R. REGISTER OF SHIPPING

8 Dvortsovaya Naberezhnaya,
Leningrad, 191041
667-2116327 Telex: rssu 121525 see
Technical Director

ACTIVITIES

USSR Register of Shipping is a state supervisory body, it combines the functions of a classification society, and a labour protection authority (safety). Its activity is based on the complex of its regulating documents, such as rules, guides, instructions, etc.

PUBLICATIONS

Register Book of Sea-Going Ships of the USSR.

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ORGANIZATIONS INDEX

ABS
    see: American Bureau of Shipping

Acres Consulting Services Limited
Transportation Division
    4-101-C

Admiralty Marine Technology Establishment
    see: Admiralty Research Establishment

Admiralty Research Establishment
    5-196-I

AINA
    see: The Arctic Institute of North America

Alberta Research Council
Civil Engineering Department
    1-001-G

Albery, Pullerits, Dickson and Associates
    4-102-C

Amacan Maritime Inc.
    4-103-C

American Bureau of Shipping
    4-104-C

Anglo-Canadian Shipping Company
    4-105-C

APOA
    see: Arctic Petroleum Operators Association

Arctec Canada Limited
    4-106-C

Arctic and Antarctic Scientific Research Institute
    5-209-I

Arctic Institute of North America (AINA)
    3-083-R

Arctic Petroleum Operators' Association
APOA Information Service
    2-055-A

Arctic Sciences Ltd.
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Arctic Vessel Research Laboratory
    see: National Research Council of Canada.
        Institute for Marine Dynamics

Associated Conferences Secretariat Reg'd
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Atlantic Pilotage Authority
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Atlantic Provinces Transportation Commission
    1-003-G, B-109

Atmospheric Environment Service
Environment Canada. Ice Branch
    1-004-G

Atmospheric Environment Service
Environment Canada. Ice Climatology and Application Division
    1-005-G

Atmospheric Environment Service
Environment Canada. Ice Forecasting Central
    1-006-G

Baird (W.F.) and Associates Coastal Engineering Ltd.
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BC Research
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Bedford Institute of Oceanography
    1-007-G

Bercha (F.G.) and Associates Limited
    4-110-C

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Boreal Institute for Northern Studies
University of Alberta
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British Hovercraft Corporation Limited
Experimental and Electronics Laboratories
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British Ship Research Association (BSRA)
5-198-I, B 004

BSRA
see: British Ship Research Association

Bustard, (Ernest E) FRINA
4-111-C

C-CORE
see: Centre for Cold Ocean Resource Engineering

C-FER
see: Centre for Frontier Engineering Research

Canada. Arctic Resources Committee
2-057-A

The Canada Centre for Remote Sensing
Energy, Mines and Resources Canada
1-009-G

Canada. Department of Communications
Communications Research Centre
see: Communications Research Centre Canada. Department of Communications

Canada. Department of Consumer and Corporate Affairs
see: Consumer and Corporal Affairs Canada

Canada. Department of Environment
see: Environment Canada

Canada. Department of External Affairs
see: External Affairs Canada. Transportation Division.

Canada. Department of Fisheries and Oceans
Canadian Hydrographic Service
see: Canadian Hydrographic Service

Canada. Department of Fisheries and Oceans
Institute of Ocean Sciences
see: Institute of Ocean Sciences

Canada. Department of Fisheries and Oceans
Marine Sciences and Information Directorate
see. Marine Sciences and Information Directorate. Department of Fisheries and Oceans

Canada. Department of Industry, Trade and Commerce
see: Regional Industrial Expansion

Canada. Department of Public Works
see: Public Works Canada

Canada. Department of Regional Industrial Expansion
see: Regional Industrial Expansion

Canada. Department of Supply and Services
see: Supply and Services Canada

Canada. Department of Transport
see: Transport Canada

Canada. Grain Commission
1-013-G

Canada. Grains Council
2-056-A

Canada. Institute for Scientific and Technical Information
Aeronautical/Mechanical Engineering Branch
see: National Research Council of Canada. Canada Institute for Scientific and Technical Information

Canada. Ministry of Transport
see: Transport Canada

Canada. Ports Corporation
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Canada's Changing Ports, University of Toronto/York University Joint Program in Transportation
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Canadian Board of Marine Underwriters
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Canadian Coast Guard
Transport Canada
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Canadian Coast Guard College
Transport Canada
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Canadian Committee on Oceanography
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Canadian Export Association
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Canadian Hydrographic Service
Ocean Science and Surveys. Department of Fisheries and Oceans
1-014-G

Canadian Institute of Marine Engineering
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Canadian Institute of Traffic and Transportation
2-061-A

Canadian International Freight Forwarders Association Inc.
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Canadian International Grains Institute
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Canadian Marine Drilling Ltd.
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Canadian Marine Transportation Administration
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Canadian Marine Transportation Centre
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Canadian Maritime Law Association
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Canadian National Railways
Headquarters Library
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Canadian Nautical Research Society
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Canadian Pacific Rail
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Canadian Petroleum Association
Offshore Operators Division
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Canadian Port and Harbour Association
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Canadian Shipbuilding and Engineering Limited
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Canadian Shipbuilding and Ship Repairing Association
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Canadian Shipowners Association
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Canadian Shippers' Council
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Canadian Transport Commission
Research Branch
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Canadian Transport Commission
Water Transport Committee
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Canadian Wheat Board
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Canarctic Shipping Company Ltd.
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CANMAR
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CBCL Limited
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Central Design and Drafting Ltd.
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Central Research Institute of the Merchant Marine (USSR)
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Centre for Cold Ocean Resources Engineering (C-CORE)
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Centre for Frontier Engineering Research (C-FER)
3-101-R

Chamber of Shipping of British Columbia
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CN Marine Inc.
1-008-G

Coast Guard Research and Development Centre
see: U.S. Department of Transportation. Coast Guard Research and Development Center

Cold Regions Research and Engineering Laboratory
see: U.S. Department of the Army, Cold Regions Research and Engineering Laboratory

College of Fisheries, Navigation, Marine Engineering and Electronics
3-089-R

Communications Research Centre. Canada
Department of Communications. Radar Research Laboratory
1-021-G

Consumer and Corporate Affairs Canada
Intellectual Property Directorate. Commissioner of Patents
1-022-G

Council of Marine Carriers
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CRREL
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Dalhousie Ocean Studies Program
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Dalhousie University
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Dalhousie University
Department of Oceanography
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Dalhousie University
Faculty of Law Marine and Environmental Law Program
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Dalhousie University
Ocean Studies Program
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David Taylor Naval Ship Research and Development Center
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Davis (W.R.) Engineering Limited
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Dawson Marine Consultants Ltd.
4-120-C

Det Norske Veritas
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Devon Island Research Station
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Dickins (D.F.) Associates
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DMA
see: Dominion Marine Association

Dominion Marine Association
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Donald Carter, Dr.
4-123-C

East-West Engineering Design Studies Reg.
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Eastern Marine Services Ltd.
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Energy, Mines and Resources Canada
Polar Continental Shelf Project
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Energy, Mines and Resources Canada
The Canada Centre for Remote Sensing
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Environment Canada
Atmospheric Environment Service
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Environment Canada
Environmental Protection Programs Directorate. Environment Protection Service
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Esso Petroleum Canada
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Esso Resources Canada Limited
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External Affairs Canada
Transportation Division
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Eyretechnics Limited
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Federal Environmental Assessment Review Office
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Fednav Limited
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Fenco Engineers Inc.
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Focal Marine Limited
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Geocon Inc.
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Hardy Associates Ltd.
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Howe International Limited
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IBI Group
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Ice Mechanics Laboratory
Department of Civil Engineering. Laval University
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Institute for Marine Dynamics
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Institute of Ocean Sciences
Ocean Information Division, Department of Fisheries and Oceans
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International Association of Great Lakes Ports
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International Maritime Law Association
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International Submarine Engineering Ltd.
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Iowa Institute of Hydraulic Research (IIHR)
University of Iowa
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Joint Program in Transportation
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Lakehead Harbour Commission
(Port Authority) Port of Thunder Bay
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Lavalin Offshore Inc.
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Leigh Instruments Limited
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Leningrad Shipbuilding Institute
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Liquitransport Distribution Inc. (Ltd.)
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Litton Systems Canada Limited
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Lloyd's Register of Shipping
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Logistec Navigation Inc.
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Manitoba. Department of Highways and Transportation
Transportation Policy, Programs and Research Division
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MARAD
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MARIN
see: Maritime Research Institute Netherland

Marine Industries Limited
Naval Division
4-151-C

Marine Institute
see: College of Fisheries, Navigation, Marine Engineering and Electronics

Marine Sciences and Information Directorate
Department of Fisheries and Oceans
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Marine Transportation R&D Advisory Board
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MARINTEK
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Maritime Research Information Service
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Maritime Research Institute Netherland
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Martec Limited
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Massachusetts Institute of Technology
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Memorial University of Newfoundland
Faculty of Engineering and Applied Science Ocean Engineering Research Group
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Memorial University of Newfoundland
Ocean Engineering Information Centre
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MPB Technologies Inc.
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MRIS
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National Harbour Board
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National Maritime Institute
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National Research Council of Canada
Canada Institute for Scientific and Technical Information. Aeronautical/Mechanical Engineering Branch
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National Research Council of Canada
Hydraulics Laboratory. Division of Mechanical Engineering
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National Research Council of Canada
Institute for Marine Dynamics
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National Sea Grant College Program
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Naval Officers Association of Canada
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Navy League of Canada
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Netherlands Maritime Institute
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Netherlands Ship Model Basin
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Newfoundland and Labrador Institute of Fisheries and Marine Technology (Marine Institute)
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Newfoundland Oceans Research and Development Corporation (NORDCO)
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NORDCO Limited
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Northern Construction Company Ltd.
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Northern Studies Library
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Northern Transportation Company Limited
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Norwegian Marine Technology Research Institute A/S
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Ocean Engineering Information Centre, Memorial University
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Ocean Engineering Research Group, Memorial University
Faculty of Engineering and Applied Science
3-095a-R

Ocean Industry Development Office
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Ontario. Ministry of Transportation and Communications
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Pacific Marine Training Institute
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Pacific Pilotage Authority Canada
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Peirce Operational Dynamics Inc.
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Peter S. Hatfield Ltd.
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Polar Continental Shelf Project
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Polar Gas Project
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Port Churchill Development Board
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Publics Works Canada
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Quebec. Department of Transport
Maritime Transport Directorate
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Regional Industrial Expansion
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Regional Industrial Expansion
Transportation Services Division.
Service Industries Branch
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RINA
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Seaspan Development Co. Ltd.
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Shipping Federation of Canada
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Shipping Information Centre
see: Lloyd's Register of Shipping

SNAME
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Society of Naval Architects and Marine Engineers
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Statistics Canada
Transportation and Communications Division.
Marine Transport Unit
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Transport Canada
Assistant Deputy Minister Planning and Coordination. Director General Research and Development
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Transport Canada
Atlantic Pilotage Authority
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Transport Canada
Canadian Marine Transportation. Administration Canadian Coast Guard
see: Canadian Coast Guard

Transport Canada
Canadian Marine Transportation Administration. Marine Pilotage
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Transport Canada
Canadian Marine Transportation Administration. Marine Planning Programming and Finance
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Transport Canada
Canadian Marine Transportation Administration. Shipping Policy Development
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Transport Canada
Great Lakes Pilotage Authority
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University of British Columbia
Centre for Transportation Studies
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University of Glasgow
Marine Technology Programme
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University of Glasgow
Naval Architecture and Ocean Engineering Department
5-205b-I

University of Manitoba
Centre for Transportation Studies
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University of Manitoba
Transportation Institute
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Ship Hydrodynamics Laboratory
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University of Michigan
Transportation Research Institute
5-193-I

University of Newcastle Upon Tyne
School of Marine Technology
5-206-I

University of Southampton
Department of Ship Science
5-207-I

University of Southampton
Wolfson Unit for Marine Technology and Industrial Aerodynamics
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University of Toronto/York University Joint Program in Transportation
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U.S. Department of the Navy
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Coast Guard Headquarters. Ice Operations Division
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U.S. Department of Transportation
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